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REGIONAL DEVELOPMENT

PLANNING, DEVELOPMENT OF TERRITORIAL PRODUCTION COMPLEXES ANALYZED

Editors' Introduction

Novosibirsk IZVESTIYA SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSSR, SERIYA OБSHCHESTVENNYKH NAUK in Russian No 6, 1983 p 3

[Text] In the past we have published in our journal selections of articles on the problems of forming TPK's [territorial'no-proizvodstvennye kompleksy (territorial production complexes)] containing discussion of the basic features of the TPK as one of the forms of regional organization of the productive forces, of the methods of building models of the TPK, and of aspects of substantiating the development of individual TPK's prior to planning.

At the present time, when the TPK has been recognized as a subject of planning and when the first practical steps have been taken in that direction, the planning, management, legal status and financing of TPK's are becoming especially relevant. We are publishing below a series of articles on these topics.

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Management Aspects

Novosibirsk IZVESTIYA SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSSR, SERIYA OБSHCHESTVENNYKH NAUK in Russian No 6, 1983 pp 3-16

[Article by M. K. Bandman, Institute of the Economics and Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences, Novosibirsk: "Improving the Management of TPK's Governed by Target Programs"]

[Text] The management of TPK's in its various aspects is inseparably bound up with planning. In spite of adoption of the decree of the CPSU Central Committee and USSR Council of Ministers "On Improving Planning and Strengthening the Influence of the Economic Mechanism on Increasing Production

Efficiency and Work Quality" on 12 July 1979 and USSR Gosplan's approval of a number of methods guidelines and recommendations on the drafting of state plans, comprehensive target programs and other documents,<sup>1</sup> improvement of the process of shaping the TPK is still an urgent matter. In a previous publication<sup>2</sup> we set forth in detail the proposals of the sector for formation of TPK's of IEIOPP SO AN SSSR [Institute of the Economics and Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences] concerning a system that would incorporate preplan substantiations and the planning of target-program TPK's, whose creation is directly bound up with carrying out programs for solving major intersector regional production problems.<sup>3</sup> We proceeded on the following assumptions in working out the proposals:

1. TPK's are the subjects of target-program planning at the nationwide level.
2. TPK's for which project plans or programs are to be prepared in the period under consideration or which are in the stage of actual formation will be subjects of national economic planning.
3. The drafting of preplan and planning documents for TPK's is done within the framework of USSR Gosplan's ASPR [computerized system of planning computations]. As a subject of planning the TPK is presently accommodated in the regional unit, but in future in the program unit, of USSR Gosplan's ASPR.
4. In the case of priority TPK's as subjects of national economic planning a system of preplan and planning documents is being officially instituted, along with the procedure for their inflow of data, drafting, expert evaluation and approval. There is a specific document that corresponds to each stage in preplan substantiations and planning: to forecasting--the scheme for formation of the TPK; to long-range planning--the general project plan of the TPK and the program for formation and development of the TPK; to medium-term and current planning--the 5-year and annual plans for formation of the TPK.<sup>4</sup>
5. The programs for formation and development of TPK's and the plans of TPK's are specifically assigned documents with directive force whose figures are interlocked with respect to assignments, resources, executors and deadlines with the respective sections of the USSR state plan and with sectoral and regional plans.
6. Documents concerning TPK's are strictly intersector, and sometimes even interregional target documents in character and are intended for coordination of the interaction of all participants in formation of the TPK in order to perform the entire interrelated set of assignments and measures guaranteeing attainment of the objective which has been set--building the projects and creating the conditions for solving a particular intersector regional production problem of all-union importance within the period of time outlined and at the lowest cost to the country's national economy. The planning of a TPK must guarantee that an additional benefit (over and above the benefit to the sector) will be achieved thanks to the optimum composition and development in

time and in space of all elements of the TPK, thanks to their location and regional concentration, thanks to optimum (from the standpoint of the national economy) use of resources (especially multipurpose resources) of all types, and thanks to the best management of the process of shaping the TPK.

7. The principal indicators for priority TPK's in the coming decade are included in the basic directions of the economic and social development of the USSR. Five-year and annual plans for formation of TPK's as a whole are included as an independent section in the relevant plans of the country's economic and social development and are duplicated in the plans of the respective union republic and oblast. In addition, in the plans of ministries, departments and oblasts (krays and ASSR's) assignments for each priority TPK are listed as a separate item (construction project) and are included in all the summary indicators of the relevant sectoral and regional plans.

8. The program for creation and development of TPK's and the plan for formation of TPK's in the coming 5-year period are approved together with approval of the plan for the USSR's economic and social development, and the annual plan for TPK's is correspondingly approved when the country's plan for the year is approved.

9. Planning documents for TPK's neither replace nor duplicate plans for the economic and social development of the oblast (kray or ASSR) in which the complexes are being created. They are plans for solving a particular regional problem, not plans for comprehensive development of the productive forces of a particular regional administrative unit. The plans of TPK's may not take into account the entire area of the region or even a part of it, nor all the elements of economic operation or all the aspects of socioeconomic development within the TPK. The plan for economic and social development of the oblast (kray or ASSR) does on the other hand cover the entire area of the oblast, including the TPK's, and all the aspects of the comprehensive development of the productive forces within its confines. The TPK is then looked upon as a component of the economy of the oblast (kray or ASSR) with respect to which the obispolkom retains all functions as a management authority throughout the entire oblast (kray or ASSR).

The documents concerning TPK's possess the following inherent and specific features which distinguish them from sectoral and regional plans:

1. Documents on TPK's differ from the plans of sectoral ministries in the intersector coverage of subjects of planning and in the limited nature of the region considered; from regional plans of oblasts (krays and ASSR's) in the limited makeup of projects within the area under consideration which are included and in the erodibility of the boundaries of the region in which the problem is to be solved.

2. The TPK documents take up together, regardless of rank and departmental subordination, all projects directly related to solving the particular problem and located in the relevant region, as well as all measures necessary to attainment of the ultimate objective, regardless of the department and the place where they are to be performed.

3. Every subject of planning, regardless of its departmental subordination, is regarded as an element of the TPK, and its functioning is oriented toward attainment of the ultimate objective of creating the TPK. The time and deadlines for carrying out the planned solutions for the particular projects are thereby defined, and they may not coincide with the scheduling adopted for drafting state plans.

4. Some of the documents on TPK's are drafted to cover the entire period of solving the relevant problem, and the principal stages of carrying out the program as a whole and the planning periods are distinguished, while others cover periods adopted in the state system of planning (long-range, medium-term and current).

At the present time governmental authorities, administrative and monitoring authorities, and a multitude of economic organizations of various ranks and affiliations are taking part in the process of creating the target-program TPK's. Staff headquarters, directorates, and commissions are being set up for management, authorized representatives of various departments are functioning simultaneously, and construction and other organizations are being granted functions improper to them or they are being compelled to take over such functions. As a practical matter supervision of creation of all TPK's follows the line of the sectoral system of planning and management with a varying degree of participation of local party and Soviet authorities. Today not a single TPK has an officially constituted management structure, not even one that has come about de facto, much less one that is scientifically substantiated. These things are not conducive to fulfillment of assignments for creation of the complexes and they tend to detract from the benefit of using such a progressive organizational form as the TPK. This has been repeatedly noted in the central press.

Work has begun to improve management of the creation of TPK's. For example, one of the deputy ministers of the USSR coal industry has been given the responsibility of coordinating efforts to create the Southern Yakutia TPK. The report of the CPSU Central Committee to the 26th party congress stated: "Recently a commission of the USSR Council of Ministers has been formed on the problems of developing the West Siberian Petroleum and Gas Complex, as well as an interdepartmental regional commission of USSR Gosplan located in Tyumen. These are steps in the right direction. They facilitate better management of territorial production complexes and better reckoning and combination of regional and sectoral interests. This kind of effort needs to be continued. In recent years many proposals have been made on organization of management of TPK's.

In our opinion, TPK's are entities subject to nationwide (obshchegosudarstvennyy) target-program management.<sup>6</sup> Creation of a TPK requires both specialized management bodies and also subdivisions in the bodies for sectoral and regional management that exist. This is not contrary to the USSR Constitution, the USSR Law on the USSR Council of Ministers, the Regulation on USSR Gosplan, nor legislation on ministries and departments and other existing legal documents. Two levels of specific bodies for management of TPK's are distinguished--at the center (in Moscow) and in the actual region where the

complex is being created. Direct communications must unfailingly be established between them in both directions. The governmental organization whose decisions are binding on all participants in formation of the relevant complex, regardless of their rank or the department they belong to, must be the supreme body for management of the process of creating a target-program TPK of all-union importance.

All bodies for management of the TPK must be given official legal status, must function in accordance with legal norms and must be guided in their activity by preplan and planning documents approved for the particular complex. The life of the bodies for management of a particular complex is determined by the time required to solve the problem in question or the period of time it is recognized to be extremely important to the country's national economy. It may as a rule begin with adoption of the law by the USSR Supreme Soviet to create the relevant TPK and end when the facilities of the complex covered by the target program pass over into the phase of permanent operation.

The principal task of bodies from TPK management is to ensure proportionality and balance in the process of creating the TPK while at the same time unconditionally achieving the objective set on schedule and at minimum expenditures of the various resources. The bodies for TPK management must not only reconcile, coordinate, recommend and execute, but also plan, distribute, regulate, take decisions binding upon all participants in creation of the TPK, i.e., they must manage effectively in accordance with the legal status accorded them. They must take possession of resources and bear full responsibility for their decisions. Certain governmental functions and authorities should be delegated to bodies at the upper level and to their authorized representatives.

Bodies for TPK management must in no case replace either regional or sectoral bodies of management, which function as usual within krays (oblasts, ASSR's). The jurisdiction and powers of bodies for TPK management are limited and related solely to the matter of operational supervision of the drafting and performance of preplan documents and plans for formation of the TPK. In all other relations the area of the complex is part of the sphere of activity of obispolkoms (krayispolkoms) or councils of ministers of ASSR's, ministries and departments. The projects comprising the TPK retain their economic independence, the rights of a juridical person and departmental affiliation. A regulation should be drafted on enterprises being built or operating within a TPK during the period when the complexes are being formed. As creation of the TPK is completed, the number of entities operating independently increases.

Combination of managerial, legal and economic principles of organization must be the basis of the mechanism for the interaction of participants in creation of a TPK. A system is needed in which everyone would be concerned with his own job and in which precise performance of his functions would be advantageous to all. Advantageous, and not merely covered by instructions that have directive force. A mechanism is necessary not only for the program to be carried out on schedule, but also for obtaining the greatest benefit from the interaction of all the participants in creating the complex. The system for

management of the TPK must be flexible in the structure and in the forms of interaction both within the TPK and also with organizations outside the complex. Both the specific nature of the problem (the objective of the TPK's creation) and also the specific features of the region in which the problem is being solved must unfailingly be taken into account in determining the structure.

Official establishment of the institution of head organizations is indispensable for every TPK: the general client (USSR Gosplan); the general drafter of the scheme for formation of the TPK and the program for its formation and development (SOPS [Council for Study of the Productive Forces] of USSR Gosplan or, by order of USSR Gosplan--research institutes of gosplans of union republics or other scientific institutions); the general project planner for working out the general design of the TPK (USSR Gosstroy represented by one of its leading institutes); the general contractor (one of the union construction ministries); the general supplier of complete equipment and certain types of materials (USSR Gosnab); the clients of the individual facilities (ministries and departments); the single client of the social infrastructure (the kray- or oblispolkom or council of ministers of the ASSR); and the head scientific institution (an institute of the USSR Academy of Sciences or a departmental institute whose configuration corresponds to that of the TPK).

The system of bodies of management recommended by the TPK sector of IEIOPP SO AN SSSR is shown in the diagram. It is important that most of its elements are not new. A sizable portion of them exist in the structure of the respective organizations, but their activity has not been sufficiently specialized, nor have their functions in the process of creating a TPK been defined straightforwardly enough.

The supreme body of management might be the commission of the Presidium of the USSR Council of Ministers in Moscow headed by one of the deputy chairmen of the USSR Council of Ministers (hereafter referred to as "USSR Sovmin [Council of Ministers] commission"). It is proposed that the Committee for Intersector Management of TPK's (TPK Committee) be its operative arm coordinating the activity of all participants in creation of the TPK in the region of its formation.<sup>7</sup> It must be directed, in our opinion, by the authorized representative of the USSR Sovmin commission with the rank of USSR minister. He will at the same time be first deputy chairman of the USSR Sovmin commission and will have to bear responsibility for carrying out the program for solving the intersector regional problem for which the TPK in question is in fact being created (or the system of TPK's in a region, for example, the Middle Ob and North Tyumen TPK's--related to creation of the West Siberian Petroleum and Gas Complex). A council of directors (of managers of organizations on the spot) might be created for efficacious resolution of current problems and would be associated with the TPK committee under the direction of the commissioner [authorized representative of the USSR Sovmin commission].

The commission of the Presidium of the USSR Council of Ministers and the TPK Committee might designate head organizations responsible for performance of particular functions (general client, general drafter, general project

planner, and so on), could monitor their work, coordinate the activity of various organizations in preparation of preplan and planning documents, could subject them to expert evaluation, and could submit them to the USSR Council of Ministers for approval.<sup>8</sup> Other possible functions of these bodies are preliminary consideration of the plans of ministries, departments and councils of ministers of union republics concerning projects and measures related to creation of the TPK and preparation of recommendations for the USSR Council of Ministers should there be a need to correct them; preliminary consideration of the indicators of the plan for economic and social development of the oblast (kray) in which the TPK's are located with respect to development of the facilities of the social infrastructure and enterprises of local industry related to creation of the TPK, and also balances concerning labor and food, and, if necessary, presentation of recommendations to correct them, formation of centralized funds for building the facilities of the infrastructure, especially those common to the entire complex; and efficacious redistribution of a portion of all the resources allocated to eliminate bottlenecks, especially those that occur in development of infrastructural facilities common to the entire complex, or in case certain participants in creation of the TPK are unable to assimilate the resources allocated to them.

USSR Gosplan, which in our opinion should figure in the role of the general client of the TPK as a whole, viewed as a single regional industrial system, would prepare recommendations for creation and development of TPK's, would be responsible for drafting the planning documents for the complex and for monitoring their fulfillment (in conformity with the decree of the CPSU Central Committee and USSR Council of Ministers dated 12 July 1979). USSR Gosplan gives the head developer (SOPS of USSR Gosplan or research institutes of the gosplans of the union republics) an assignment to prepare the scheme for formation of the particular TPK and a program for its formation and development, and it gives the general project planner (USSR Gosstroy) an assignment for preparing the general project plan of the TPK.

In the role of the general project planner USSR Gosstroy commissions one of its institutes to prepare the general project plan of the TPK and creates a subdivision in the region where the complex is being formed for the day-to-day operation and to exercise designer's supervision over implementation of the general project plan. In future it would be advisable to assign one of the leading institutes of USSR Gosstroy to each TPK.

The general contractor--usually this would be one of the construction ministries<sup>9</sup>--works in close contact with the general client and the sole client of the social infrastructure, acts as intermediary among subcontracting organizations and coordinates their work, takes part in drafting preplan documents and the plans for formation of the TPK and bears full responsibility for construction of all the projects making up the complex on schedule. It is very important that the general contractor be appointed immediately after the decision is made to build the TPK, and his effort must be oriented toward achievement of the ultimate objective of the problem to be solved. In a region where a very large complex or system of TPK's is being formed, it is desirable to transform the construction organization serving as general contractor into a main administration (like Glavtyumenneftegazstroy [Main

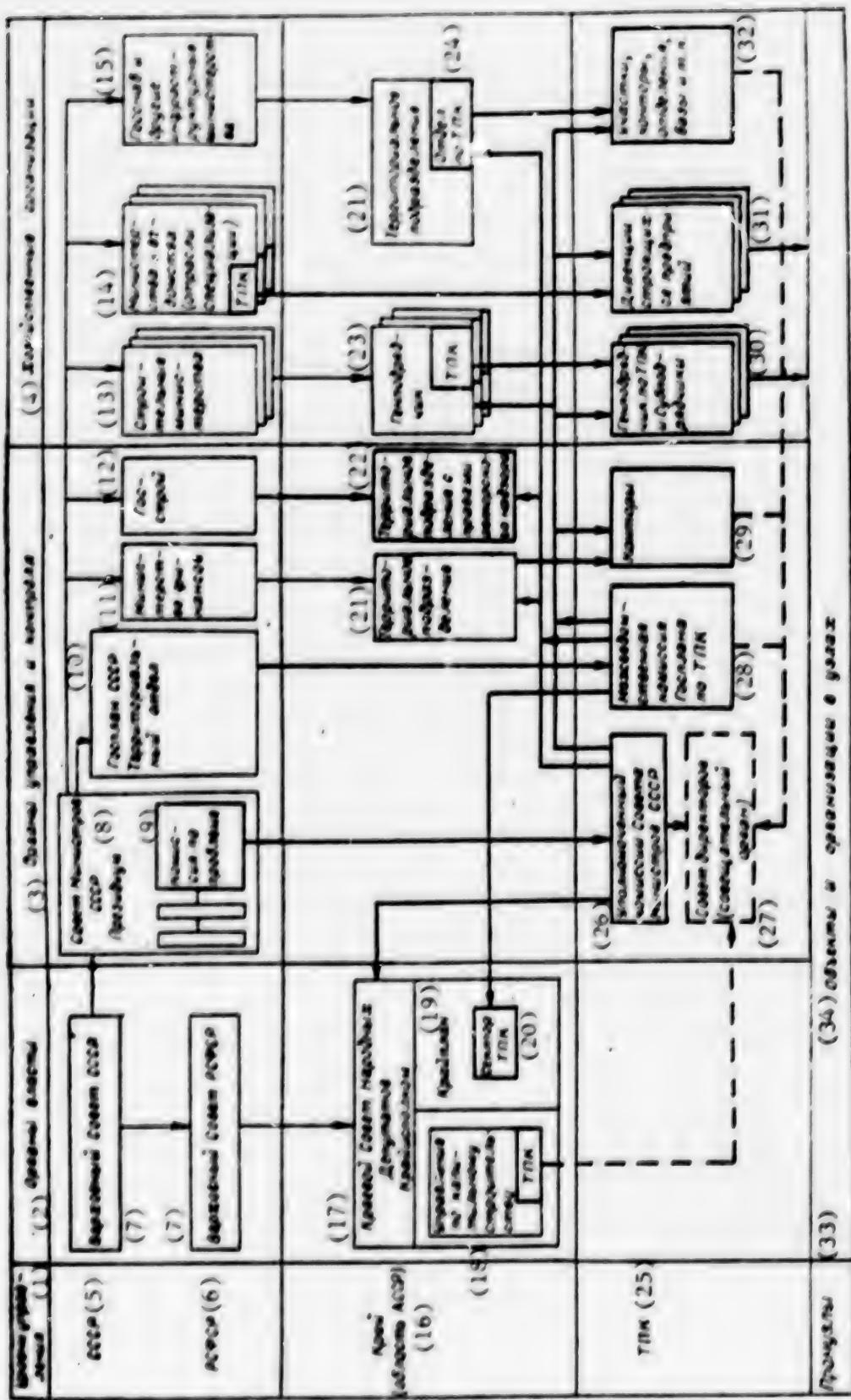
Administration for Construction of Petroleum and Gas Industry Enterprises in Tyumen Oblast] of the Ministry of Construction of Petroleum and Gas Industry Enterprises, in Tyumen), or, as noted above, into a regional construction ministry. The head of the main administration must have management functions and must have the rank of a deputy minister.

Ministries and departments which are clients of their own sectoral projects set up directorates of the ministry's enterprises which are under construction or in operation to monitor the course of construction or reconstruction, to make preparations for the startup of the enterprises and to manage projects which are in operation (both production activity as well as fulfillment of the plans for the collective's social development).

Key to diagram:

1. Levels of management
2. Bodies of government
3. Managing and monitoring bodies
4. Economic organizations
5. USSR
6. RSPSR
7. ... Supreme Soviet
8. USSR Council of Ministers, Presidium
9. Commission for the problem
10. USSR Gosplan, regional department
11. Ministry of Finance
12. Gosstroy
13. Construction ministries
14. Ministries and departments (sectors representing specialization)
15. Gosnab and other infrastructural ministries
16. Kray (oblast, ASSR)
17. Kray soviet of people's deputies, krayispolkom
18. Administration for capital construction
19. Krayplan
20. TPK sector
21. Regional subdivision
22. Regional subdivision with powers of designer's supervision
23. General contractor
24. Department for TPK's
25. TPK
26. Authorized representative of the commission of the USSR Council of Ministers
27. Council of directors (advisory body)
28. Interdepartmental commission of Gosplan for TPK's
29. Offices (kontory)
30. General contractor for the TPK and subcontractors
31. Directorate of enterprises under construction
32. Sections, offices, departments, depots, and so on
33. Industrial parks
34. Projects and organizations within the parks

Role of Management and Organization Directly participating in creation of Target-structure IT's



USSR Gosznam in the role of general supplier of complete equipment and resources and the Ministry of Finance create their own regional subdivisions within the TPK to perform the respective functions.

Local soviets (kray- and oblastspolkoms and councils of ministers of ASSR's) act as sole clients of the social infrastructure; special capital construction departments of the respective ispolkom are created for this purpose.<sup>10</sup> Agencies of soviets of people's deputies must perform the full scope of their functions within the TPK from the very outset of the complex's formation. The city is at least as complicated a system as an enterprise, and its fate, the living conditions of the population and development of projects in the production sphere depends in large part on how it takes shape at the beginning. Yet in the past the directorate of the enterprise under construction has been created from the very beginning of construction of large production projects, but there has been no "directorate" of the future city. The gorispolkom comes into being much later, when it is difficult to correct many of the defects in the shaping of the city, and key items (the housing stock and many services) have already been concentrated in the hands of departments (enterprises).

Along with governmental and administrative bodies, and the organizations of production-and-economic ministries and departments, creation of a TPK must also involve scientific institutions of the USSR Academy of Sciences, the academies of sciences of the union republics, and sectoral organizations. Their participation is indispensable not only in the period of scientific and project planning preparation of the TPK, but also in the stage of its actual formation. It would be best to designate a head scientific research organization for the problems of forming every TPK. The formation of scientific councils of the USSR Academy of Sciences for the various major interregional and regional problems has recommended itself as an effective form. For example, councils are now in place for the problems of the Kursk Magnetic Anomaly (director--M. I. Agoshkin, corresponding member of the USSR Academy of Sciences), the Baykal-Amur Main Rail Line (director--A. G. Aganbegyan, member of the Academy). Recently a scientific council of the Siberian Department of the USSR Academy of Sciences was created for problems of the petroleum and gas complex of Tyumen Oblast (director--A. A. Trofimuk, member of the academy). A council is being prepared for the Central (Seredinnyy) Region to study the question of the advisability of redistribution of a portion of Siberia's water resources. Councils do not yet exist, and that is a pity, for the Kansk-Achinsk and Ekibastuz fuel and energy complexes or a number of other major regional problems of nationwide importance.

The structure for management of the TPK must be based on uniform basic principles resulting from the specific nature of the TPK as a form of the organization of the productive forces in solving national economic problems of a particular type and rank. Yet it cannot be universal and strictly identical for all the country's target-program complexes. There are no absolutely identical TPK's, nor, it is obvious, will there be. The greatest influence on differentiation of systems for management of TPK's is exerted by differences in the following: a) the content of the problem whose solution has led to the creation of the TPK (the problem of the Kursk Magnetic Anomaly and the

Angara--Yenisey problem); b) the makeup of the branches comprising specialization (extraction of petroleum and gas, the mining of coal or iron ore, or machinebuilding, energy-intensive production operations, electric power); c) the complexity of the internal structure of the TPK (either multipurpose or single-purpose);<sup>11</sup> d) the character of the location (a single complex or several TPK's within a union republic, several loosely connected TPK's in a region or a system of interlocked TPK's in a region); e) specific natural, economic and economic-geographic conditions of the region for creation of the TPK, etc.

The scheme offered above for the bodies involved in management of target-program TPK's corresponds more to multipurpose TPK's which are complex in their structure and formed in underdeveloped areas or areas undergoing pioneer development (the Middle Ob TPK, the Sayan, the Bratsk--Ust-Ilimsk, the Lower Angara, etc.). The structure of management bodies can be simplified somewhat in single-purpose TPK's (the Southern Yakutia in the first stage of its formation, the TPK centered on the Kursk Magnetic Anomaly, etc.). The functions of the authorized representative of the commission of the Presidium of the USSR Council of Ministers may be assigned to a deputy minister of the head branch, whose powers in this connection must be substantially broadened and backed up with direct access to the relevant commission of the Presidium of the USSR Council of Ministers.<sup>12</sup> A different scheme is obviously needed for the bodies of management in the case of the TPK centered on the KMA [Kursk Magnetic Anomaly], which, unlike others, is being formed not only by virtue of the very intensive development of a single sector, but also in a highly developed region of the country.

The question of the management scheme also arises in the case when several TPK's are created within a single administrative-territorial unit (Tyumen Oblast--the Middle Ob and North Tyumen TPK's; Krasnoyarsk Kray--the Sayan, Central Krasnoyarsk, Lower Angara and North Krasnoyarsk TPK's; and possibly even in Kazakhstan--the Pavlodar--Ekibastuz TPK and the Mangyshlak TPK; etc.). There can be no set standard even in this case. Two variants of a solution are possible in this situation depending on the closeness of interlinkage of the TPK's. When creation of individual TPK's within a single administrative unit is related to the solution of different problems, the complexes are not connected closely to one another, construction is carried on by different general contractors (the Pavlodar--Ekibastuz and the Mangyshlak) or the time of formation does not coincide (the North Krasnoyarsk and Sayan, the Central Krasnoyarsk or the Bratsk--Ust-Ilimsk and Upper Lena), the basic system for management of creation of the TPK described above might be adopted.

If the complexes comprise a system of interconnected TPK's (even when they occupy adjoining sections of neighboring administrative units--the Middle Ob TPK falls partly in Tyumen and partly in Tomsk Oblast), if they participate in solving one problem or several problems very much related to one another (building centers of the petroleum and gas industry or building the bases for energy-intensive production operations on the basis of thermal and hydroelectric power), or if they are competing in connection with determining the order of priority for creation of the facilities of the branches constituting specialization, in the distribution of resources, or in utilization of the capabilities of the construction industry, sources of energy, or

transportation facilities; then probably it will become necessary to locate some portion of the management bodies in the administrative center of the relevant territorial unit (mainly those bodies coordinating relations among the complexes). Yet it is not permissible for the management, especially that management directly responsible for building a particular TPK, to be located outside the complex, to be detached from supervision of the process of building the TPK. It is a shame that such bodies do not exist today in Abakan for the Sayan TPK, in Sharypovo for formation of the KATEK [Kansk-Achinsk Fuel and Energy Complex], even though the staff for the KATEK in the CPSU kraykom and the TPK department of the krayplan are functioning in Krasnoyarsk.

We have described above the proposals of the sector for formation of TPK's of IEIOPP SO AN SSSR on improvement of the management of the process of creating the TPK. The names given, functions, structure and other characteristics both of the system as a whole and of the individual bodies of management will obviously undergo further revision. Other points of view have in fact been expressed concerning some of them in scientific and general periodicals.

At this point most authors already deem it necessary for a commission to be created in Moscow as the supreme body for management of target-program TPK's. But some authors prefer to create a commission associated with USSR Gosplan, while for others it should be associated with the Presidium of the USSR Council of Ministers. It seems to us that it would be more sensible to create this body within the USSR Council of Ministers itself rather than associated with Gosplan.

The experience of the commission for the BAM [Baykal-Amur Main Rail Line] and creation of the commission for problems in development of the West Siberian Petroleum and Gas Complex provide the basis for supposing that such commissions are also necessary for other national economic problems on the largest scale, including certain regional problems. Then the formation of each target-program TPK as an integral part of certain regional problems would fall in the sphere of activity of one of the commissions of the Presidium of the USSR Council of Ministers.

Nor is there unanimity among advocates of a commission of the Presidium of the Council of Ministers. Some authors feel that the commission should be created for the national economic problem, while others prefer to create a special commission for all target-program TPK's.<sup>13</sup> Each of these proposals has unquestionable pluses and minuses. The commission for the problem will in any case be compelled to resolve certain questions related to formation of the TPK whose creation is related to carrying out the program for solving that same problem. The management will obviously be more professionally competent in the creation of the TPK, since this is the strategy for solving the problem as a whole. The shortcoming of this alternative is that commissions for problems as a rule continue to be sectoral or intersectoral, and the psychology of the narrow sectoral approach in solving the problems of TPK's may have an effect on development of the production operations being integrated, development of the infrastructure, and so on.

The great advantage of the special commission for all target-program TPK's is that here we would have an identical approach to forming TPK's that would be more managerially competent. But creation of a TPK is not an end in itself; the complex is necessary as a progressive form of organization of the productive forces to solve a particular problem. Unification of the management of creation of the TPK may divorce the means and strategy for achieving the goal from the problem itself. Even the future commission will have to clear the problems of forming the TPK with several commissions for problems. There is a basis for supposing that resources will also be allocated rather for the problem than for the TPK. In all our structures our point of departure is that the commission must be related to a major national economic problem. But V. A. Perttsik's proposal about creating a commission for all TPK's deserves careful analysis.

Many proposals have also been made concerning the bodies of management in the region where the TPK is being formed. No one has any doubt that such a body is necessary. The discussion is what it should represent and what sort of functions it should perform and with what means. There have been widespread proposals for recognizing as the management body construction organizations, unified directorates of enterprises under construction, obl(kray)ispolkoms, ispolkoms combined with commissioners from the center, and organizations directly subordinate to USSR Gosplan or to the USSR Council of Ministers.<sup>14</sup>

In previous publications we have regarded obl(kray)ispolkoms as the principal body for management of the TPK at the local level; they would work in close contact with the authorized representative of the commission of the USSR Council of Ministers.<sup>15</sup> After adoption of the new laws on local soviets it became clear that this is not the best proposal. First, there has been a sharp increase in the role and amount of work of local soviets in organizing the comprehensive economic and social development of their respective oblasts (krays). Second, the powers and resources of the soviets are insufficient for solving the problems that arise in creating a TPK. It is obvious that the government body headed by the authorized, representative of the commission of the USSR Council of Ministers must be the basic one, and the local soviets must work in close contact with it in solving problems of their jurisdiction both within the TPK and also within the boundaries of the entire oblast (kрай).<sup>16</sup>

We have to go back once again to the question of the TPK Committee and the commission of USSR Gosplan. At present not a single complex has an authorized representative of the commission of the Council of Ministers (nor have such commissions been created for all the most important problems). There is no such authorized representative even in Tyumen, nor has such provision been made, although a commission of the Presidium of the USSR Council of Ministers has been created for development of the West Siberian Petroleum and Gas Complex. Since May 1981 the Interdepartmental Regional Commission for Development of the West Siberian Petroleum and Gas Complex of USSR Gosplan has been functioning in Tyumen.

The results of its activity indicate that representation of the central authority in the region where the problem is being solved and direct

communication between the management on the spot and the center are extremely necessary. But since it is a commission of USSR Gosplan, because of its status it cannot resolve many of the intersector problems that arise.<sup>17</sup> It is clear that there has to be at the local level a representative (commissioner) of the higher managing organization (of the commission of the USSR Council of Ministers) with a highly qualified staff. This is also indispensable to the normal operation of the commission of the USSR Council of Ministers at the center itself. This is indicated by the fact that when it does not have its own authorized representative, the commission of the USSR Council of Ministers is constantly compelled to turn to the commission of USSR Gosplan with various requests, queries and commissions. Doing this work takes up a sizable portion of the working time of the commission of USSR Gosplan. Many of the commissions are very important, important for the TPK, but they are not directly related to planning work.

If the commission of the USSR Council of Ministers were to create a TPK Committee, then there would be two representatives of government organizations in Tyumen. In our opinion, it is necessary to have only one managing organization of the Presidium of the USSR Council of Ministers in the region where the TPK is being formed--the TPK Committee, headed by the authorized representative. All of the planning work for the TPK should be assigned to that organization, the first deputy of the commissioner should be made responsible for planning and should be given the powers of a department head of USSR Gosplan. Or the Gosplan commission as a whole should be regarded as one of the subdivisions of the TPK Committee. This alternative, in our opinion, has a number of advantages. First, the supreme management body is represented in the region with broad decisionmaking rights. Second, the work of the commission in Moscow can become more responsive. Third, management, planning and also followup on execution are concentrated in a single institution. Implementation of this proposal involves legal difficulties because of the dual subordination of some of the staff members (of the commission of USSR Gosplan) in a single collective--the TPK Committee, which would be oriented toward the USSR Council of Ministers.

The proposal is sometimes made that all the planning work on the TPK should be turned over to the planning commissions of the oblasts (krays) ispolkoms. This is obviously not the right thing to do for at least two reasons. First, the planning commissions of the oblasts (krays) are not prepared for that work and they are not capable of it even if they broaden their staff somewhat and set up special sectors or departments for the TPK. Second, it diverts attention from planning the comprehensive economic and social development of the oblast (krai) as a whole (including the TPK), in which the amount of work to be done has increased, and higher requirements are being imposed on regional planning. We believe the position of the decree adopted by the CPSU Central Committee and USSR Council of Ministers on 12 July 1979 to be altogether correct; according to it, TPK's of nationwide importance should be subjects of planning by USSR Gosplan itself at the center or by its specialized and independent subdivision right on the spot (as has been done in Tyumen) or in some way unified with the TPK Committee under the direction of the authorized representative of the commission of the Presidium of the USSR Council of Ministers. In the work process this subdivision would be in communication with

the obl(kray)plan [oblast (kрай) planning commission], and the data on the TPK would be included in summary indicators for the oblast (kрай), but in addition the TPK as a whole, as a single subject of planning, would be represented as an independent item in the planning documents of the country and duplicated in the plans of the respective union republic and oblast (kрай, ASSR).

There is also a need to improve the organizational structures of subdivisions participating in formation of TPK's, and for revising the status of their senior officials. The amount of work to be done makes it necessary to create very large organizations which are difficult to manage.<sup>18</sup> We feel that when a TPK is being created there is a sharp increase in the personal responsibility of the senior officials of major subdivisions, and they are entitled to a higher administrative rank in the ministry or department and additional powers should be delegated to them. The experience of building the VAZ [Volga Motor Vehicle Plant], the Ust-Ilimsk Pulp Mill and a number of other projects which were managed on the spot by deputy ministers of the respective ministries has justified itself unconditionally. What we have said is not confined to construction or production organizations. Differentiation of rights is necessary even in the case of soviets of people's deputies. Today the Khakass Oblispolkom, which has to solve many of the problems in forming the Sayan TPK as a whole, possesses the same rights as other oblispolkoms (for example, the Gorno-Altay, where at the present time such complicated additional tasks are not being performed).

But improvement of the management structure will not yield the requisite benefit and will not make it possible to eliminate many of the difficulties in creating TPK's unless the problems of the legal basis of the TPK are resolved at the same time and unless the system is changed for financing the process of creating the TPK (especially creation of interdepartmental projects in the infrastructure). Whereas substantial progress has been outlined in recent years with respect to planning, and in the field of management the first practical steps have been taken, the juridical status of the TPK has not been set forth in legislation. Although publications of the Institute of Government and Law of the USSR Academy of Sciences,<sup>19</sup> of the All-Union Scientific Research Institute of Soviet Legislation of the USSR Ministry of Justice,<sup>20</sup> of the Center for Problems of Management of Social Production of the School of Economics of Moscow State University,<sup>21</sup> the All-Union Scientific Institute of Systems Research,<sup>22</sup> the Sverdlovsk Institute of Law,<sup>23</sup> have made a serious beginning toward reflection on the problems of legal regulation of the TPK. But "until the TPK's are given legislative definition as entities which have a structured management organization, they will remain in definite economic categories. A paradoxical situation is coming about: a number of legislative acts determine the relation of the agencies of government authority and administration toward the TPK, but under the law they themselves are not yet even objects of state administration, nor are they principals in legal relations."<sup>24</sup>

Legal norms regulating the interaction of a large number of participants in solving one large problem are necessary to formation of the TPK. Many of them have differing partial goals and criteria for evaluating their activity,

and there is a need for a strict correlation of functions, rights and responsibilities. It is very important in this connection to take into account the dynamism of the TPK as an organizational form of the productive forces, the changing tasks of management in the different phases of forming the TPK, and the period which the management bodies and individual participants function in the process of creating the TPK. We basically agree with the list of legal problems and the periods of time assigned to them as proposed by N. S. Barabasheva.<sup>25</sup> They can be distributed as follows among the phases of creating the TPK which we have identified:

Phase I (scientific and project planning preparation of the TPK)--regulation of the procedure for the conduct, expert evaluation and packaging of the results of scientific research and project feasibility studies for proposed or scheduled TPK's as a unified system under the conditions of both the absence and the existence of special management bodies for the particular TPK.

Phases II and III (intensive infrastructural preparation of the site and intensive construction work on all projects of the TPK)--the legal form of the decision to create the TPK, the formation of special bodies for management of the particular complex and assignment of head organizations to the TPK, regulation of the preparation of planning documents and of the activity of all participants in creating the complex assuming the leading role of the bodies of management of the TPK and continued functioning of authorities for regional and sectoral management.

Phase IV (beginning of the permanent functioning of the projects of the TPK peculiar to its purpose)--regulation of interaction of participants in completing performance of the program for formation and development of the TPK in the context of a steady increase in the number of operative projects peculiar to the TPK.

As for improvement of the system of financing the process of creating the TPK, still less has been done than in defining the legal norms. There have been diverse single solutions, but as a rule they do not embrace the entire problem as a whole. It has accordingly "become necessary to achieve multiannual financial planning. For multiannual plans and multiannual programs there must be a financial section in addition to the economic section and a more effective mechanism for centralization of the use of resources."<sup>26</sup> There are serious fears that a number of the most important provisions of the decree of the CPSU Central Committee and USSR Council of Ministers dated 12 July 1979 with respect to financing, in particular the transition to 5-year financial plans, will be difficult to carry out. The proposal of A. N. Semenov deserves full attention and requires thorough study: that "the creation of a TPK must be financed from a single source on the basis of a project plan for the TPK approved by the government and binding on all ministries and departments taking part in it. On matters of allocation of resources to build the TPK the body for management of the TPK must deal with USSR Gosplan, but in no case with the individual ministries. When an enterprise is put into operation, cost-accounting relations to cover the costs of operation and development of the infrastructure need to be established between it and the body for management of the TPK."<sup>27</sup>

M. Zotov proposes a still more fundamental solution. He rightly feels that the experience of financing the creation of TPK's through various ministries will result in discrepancies in the arrival of appropriations and material supply. It is indispensable that capital investments be allocated to the regional industrial complexes. "It would seem to be more correct if by superior authority the amounts fixed in plans were redistributed for the period of construction from the jurisdiction of the ministries to the disposition of the banks. USSR Stroybank might in turn undertake to allocate credit resources for development of regional industrial complexes than for carrying out programs."<sup>28</sup> Two questions arise in connection with this proposal. First, there is a need for concentration not only of financial resources, but also of physical resources, of limits [appropriations] for project planning and contract work, and so on. Second, the bank can issue and monitor the use of financial resources, but it cannot be the authority in charge of them. For this purpose there has to be a body of management of the TPK--the TPK Committee. It should concentrate the limits or allowances on all types of resources and it is with its sanction that the Stroybank should provide funding from the resources set aside to build the projects making up the TPK.

There have also been other proposals on improvement of financing,<sup>29</sup> interaction and mutual responsibility of participants in creating TPK's which deserve serious attention. An interesting proposal has been made by O. Novikov on establishing financial motivation to shorten the construction time and to reduce the amount of unfinished construction and the estimated cost of the projects comprising the TPK as a whole not only on the part of the contractor, but also the clients, project planners and other organizations. In the author's opinion, the material incentive fund of clients, construction contractors, project planners and personnel of Gosnab should depend on these indicators. In addition, a proposal is made to introduce a charge on capital investments, which would be collected from the client--the payment to the state of a certain percentage from his profit as a function of the size of the capital investments and the period of time they are used. Under those conditions the client and other organizations would try to guarantee timely and rapid delivery of projects. But at present "... the mechanism for economic activity that is in place sometimes does more to separate related entities than bring them together, and does not orient them to achieve the end result more rapidly."<sup>30</sup>

The problems of the legal status and of improving financing and financial responsibility in creating the TPK are taking on especial significance in this connection.

#### FOOTNOTES

1. "Metodicheskiye ukazaniya k razrabotke gosudarstvennykh planov ekonomicheskogo i sotsial'nogo razvitiya SSSR" [Instructions on Methods of Drafting State Plans of Economic and Social Development of the USSR], Moscow, Ekonomika, 1980, 776 pp; "Basic Principles on Methods of Drafting National Economic Target Programs. Instructions on Methods of Drafting Comprehensive Target Programs for Solving Regional Problems and

for Formation and Development of Regional Industrial Complexes," in the book: "Sovershenstvovaniye khozyaystvennogo mekhanizma" [Improvement of the Economic Mechanism], Moscow, Pravda, 1982, pp 95-105.

2. M. K. Bandman, "Directions in Improvement of Preplan Preparation, Planning and Management of the Process of Creating Target-Program TPK's," IZV. SO AN SSSR, SER. OБSHCHESTV. NAUK, No 6, Issue 2, 1980, pp 38-59.
3. M. K. Bandman, "Target-Program Regional Industrial Complexes," IZV. SO AN SSSR, SER. OБSHCHESTV. NAUK, No 11, Issue 3, 1978, pp 32-39; by the same author, "Territorial'no-proizvodstvennyye kompleksy: teoriya i praktika predplanovykh issledovanii" [Territorial Production Complexes. The Theory and Practice of Preplan Research], Novosibirsk, Nauka, 1980, 254 pp.
4. For more detail on the documents, see: M. K. Bandman, "Directions in Improvement...."
5. "Materialy XXVI s"yezda KPSS" [Materials of the 26th CPSU Congress], Moscow, Politizdat, 1981, p 50.
6. For more detail on the specific nature of target-program management, planning and organizational structures, see: "Programmno-tselevoye upravleniye sotsialisticheskim proizvodstvom. Voprosy teorii i praktiki" [Target-Program Management of Socialist Production. Questions in Theory and Practice], Moscow, Ekonomika, 1981, 206 pp; B. S. Mil'ner, "Organizatsiya programmno-tselevogo upravleniya" [Organization of Target-Program Management], Moscow, Nauka, 1980, 376 pp; "Nauchno-tehnicheskiy progress: programmnyy podkhod" [Scientific-Technical Progress: The Program Approach], Moscow, Mysl', 1981, 238 pp.
7. A provisional name (see: V. A. Perttsik, "Legal Regulation of the Formation and Development of Regional Industrial Complexes," IZV. SO AN SSSR, in the present issue).
8. The functions of the commission and TPK Committee of the USSR Council of Ministers were defined jointly with V. A. Perttsik. For more detail on this, see his article in the present issue of the journal.
9. It is possible that for regions of intensive economic development with a large amount of not only industrial, but also public works construction, where development of the productive forces is not restricted (in either time or space) to formation of the TPK, it would be advisable to create very large regional construction organizations under general construction ministries (like the USSR Ministry of Construction in the Far East and Transbaykal Regions). These construction organizations could take on the role of general contractor in building the TPK.
10. Departments of this kind have already been created in many cities (Pavlodar and others), and in Leningrad the Main Administration for Capital Construction of the gorispolkom has been in operation for many years

(A. Platunov, "The Industrial Park Is More Advantageous," PRAVDA, 26 October 1982.

11. M. K. Bandman, "Territorial'no-proizvodstvennyye kompleksy . . .," pp 46, 47, etc.
12. This is confirmed by the experience of the Coordinating Council for the Southern Yakutia TPK at Neryungri, which is headed by the first deputy minister of the USSR Coal Industry. But as things now stand the council remains an advisory body and does not have enough rights to decide many intersector issues. See: G. Yastrebtsov, "In Response to Fierce Attacks," PRAVDA, 28 November 1982.
13. See: V. A. Perttsik, "Legal Regulation...."
14. For our attitude to certain of these proposals, see: M. K. Bandman, "Directions in Improvement of Preplan Preparation...." The soundness of proposals has been examined from the legal standpoint in the article of V. A. Perttsik, "Legal Regulations...."
15. M. K. Bandman, "Problems in Improving the Process of Forming TPK's," IZV. SO AN SSSR, SER. OБSHCHESTV. NAUK, No 11, Issue 3, 1973, pp 3-14; by the same author, "Territorial Production Complexes...." author, "Directions in Improvement of Preplan Preparation...."
16. For more detail see: V. A. Perttsik, "New Legislation on Kray and Oblast Soviets of People's Deputies and Problems of Management of Territorial Production Complexes," in the book: "Programmno-tselevyye TPK: predplanovyye issledovaniya" [Target-Program TPK's: Preplan Studies], Novosibirsk, 1982, pp 41-56.
17. V. Kuramin, "We Are Planning a Complex," PRAVDA, 2 March 1982.
18. For example, BratskGESstroy [Administration for Supervision of Construction of the Bratskaya GES] does construction and installation work amounting to almost 500 million rubles every year and is carrying on construction in Bratsk, Ust-Ilimsk, Neryungri, Sharypovo (the KATEK), Koda (Boguchanskaya GES), has built the Nadezhdinskiy Metallurgical Plant (Norilsk) and other complexes of the country; Glavyumenneftegazstroy brings together 170 independent industrial, transportation and other subdivisions; the Nizhnevartovsk Petroleum and Gas Production Association embraces 117 subdivisions, and so on. Today the director of the association, which produces 200 million tons of petroleum, legally has the same powers as the director of an association producing one-tenth as much. The situation is similar in other sectors (the Bogatyr strip coal mines with an output of 50 million tons of coal and the Nazarovo strip mine with an output of 16 million tons).
19. Ye. I. Korenevskaya, "The Role of Soviets in Achieving Comprehensive Development of the Region," SOVETSKOYE GOSUDARSTVO I PRAVO, No 12, 1980, pp 38-46.

20. V. A. Perttsik, "The TPK in the Ensemble of Management," SOVETSKAYA ROSSIYA, 30 January 1982; by the same author, "New Legislation on Kray ..."; by the same author, "Legal Regulation...."
21. N. S. Barabasheva, "Management of Territorial Production Complexes" SOVETSKOYE GOSUDARSTVO I PRAVO, No 5, 1980, pp 41-50.
22. K. Yu. Chizhov and V. D. Rudashevskiy, "The Legal Foundations of the Program Approach," in the book: "Nauchno-tehnicheskiy progress: programmnyy podkhod," Moscow, Mysl', 1981, pp 211-236.
23. D. N. Bakhrakh, "Target-Program Structures in Soviet State Administration," SOVETSKOYE GOSUDARSTVO I PRAVO, No 1, 1980, pp 35-41.
24. V. A. Perttsik, "New Legislation on Kray ...," p 50.
25. See: N. S. Barabasheva, "Management...."
26. "Comprehensive Development of West Siberia," SOVETSKOYE GOSUDARSTVO I PRAVO, No 11, 1978, p 58.
27. A. N. Semenov, "Experience and Problems in Management of the Comprehensive Development of a TPK," in the book: "Upravleniye realizatsiyey programm" [Management of Program Fulfillment], Moscow, 1977, pp 261-262.
28. M. S. Zotov, "Financial Problems in Management of Investment Processes," VOPROSY EKONOMIKI, No 11, 1982, p 83.
29. G. B. Polyak and B. N. Anenkov, "Financial Aspects of Forming Territorial Production Complexes," IZV. SO AN SSSR, in the present issue.
30. O. Novikov, "Responsibility for the Construction Project," PRAVDA, 11 December 1982.

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#### Legal Aspects

Novosibirsk IZVESTIYA SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSSR, SERIYA OBOSHCHESTVENNYKH NAUK in Russian No 6, 1983 pp 17-25

[Article by V. A. Perttsik, All-Union Scientific Research Institute of Soviet Legislation, USSR Ministry of Justice, Moscow: "Legal Regulation of the Formation and Development of Regional Industrial Complexes"]

[Text] In spite of the present tendency to bring the formation and development of the TPK into legal channels, to place their development on a legal foundation, many problems are still awaiting their solution. The topical relevance of achieving interdepartmental management,<sup>1</sup> is inevitable in all stages of formation of the regional industrial complex, since from its very

first steps it is necessary to delineate powers, rights and duties among the bodies responsible for carrying out the program and plans for formation of the TPK.

This delimitation is impossible without a certain legal mechanism, without law, just as it is impossible for motor transport to travel the highways without traffic regulations. Unfortunately, this truth has to be repeated, since legal nihilism is still a characteristic of many levels of the administrative hierarchy. It is important to the formation and development of the TPK that all the processes related to it be directed into legal channels, i.e., the TPK needs a legal base. Organization of management of the TPK on a straightforward legal foundation is an indispensable part of that base.

Various legal conceptions of models of management of the TPK are offered, and they reflect the diverse types of TPK. It is a rather widespread idea that a coordinating body could be created for management of the TPK. For example, G. Kh. Popov has written: "... it must above all be a collegial body--a kind of regional committee or ministry consisting of representatives of the sectoral ministries operating in the zone as well as of republic, oblast and kray organizations."<sup>2</sup> In another of his papers G. Kh. Popov has written that this body might "... turn out to be, first, a kind of 'superbody,' since it has to exert influence on a number of sectoral and territorial-administrative units. Second, the powers and jurisdiction of this body are not all-inclusive; they are related only to the content of the program. Third, the life of the body is determined by the period covered by the program."<sup>3</sup> Leaving to one side the author's arguments about "instituting" a special type of ministry, which are not based on legislation and are very far from a correct understanding of the status of ministries in the Soviet constitutional system, we will note that this coordination is only one of the functions of management, a function which cannot replace the management itself, which is precisely what TPK's are in such need of, relying as they do on government powers in their dealings with all enterprises, organizations and institutions functioning within the confines of the complex. This same position has also been developed in the writings of specialists in management law. For instance, B. P. Kurashvili proposes: "Regional coordinating councils might be organized on the following principles. Senior officials of republic governments and of oblast (kray) 1spolkoms might be members of the regional council (it is difficult to understand which officials the author has in mind--V. P.). Union and autonomous republics and territorial units would be accorded equal rights with respect to participation in the council. The competence of the regional council would be determined by the character of the rights delegated to it and the character of the duties made its responsibility by agreement among the participants...."<sup>4</sup> It is sufficient to project this proposal onto any TPK to be persuaded that it is unrealistic.

Diverse proposals have been made concerning the forms of management of the TPK during discussion of the problems of comprehensive development of West Siberia.<sup>5</sup> V. S. Varlamov made the case for establishing the official position of a commissioner of the USSR Council of Ministers for TPK's with a small staff whose principal function would be to coordinate the activity of ministries in fulfilling plans for development of TPK's. Ye. I. Koronevskaya

did not concur in this opinion and noted that local bodies of government authority must themselves perform coordinating and monitoring functions. Executive committees of kray and oblast soviets should form industrial departments not for day-to-day supervision of all industrial development, but for coordination carried out within the limits of the soviet's competence. V. I. Litvinova has expressed the opinion of the need to grant to local government authorities the right of "veto" over construction (in any stage) and expansion of a number of industrial enterprises within the oblast, if it is not accompanied by corresponding development of the infrastructure. TsENII [Central Scientific Research Economics Institute] of RSFSR Gosplan feels that administration for construction of complexes directly subordinate to the USSR Council of Ministers should be formed for day-to-day supervision of the process of forming the TPK and for solving interdepartmental problems on the spot,<sup>7</sup> while the work to plan the TPK would be coordinated and fulfillment of the targets in the plan monitored by special subdivisions of USSR Gosplan and the gosplans of the union republics in which the respective complexes are located.

G. Chiryarev, who is first secretary of the CPSU Obkom of Yakutsk ASSR, has written: "Success here depends on having a body in Gosplan to coordinate the activity of all ministries and departments involved in territorial production complexes. Such a body should be vested with real capabilities for unifying the physical and financial resources of sectors on the basis of the master plan for formation of each complex. Otherwise agreement will not be achieved. As experience shows, in pursuit of sectoral interests departments not uncommonly give the lowest priority to the most important tasks."<sup>7</sup> The same position is shared by N. Morozov, first secretary of the CPSU obkom of Komi ASSR: "... we propose for formation and development of the Timan--Pechora TPK that an interdepartmental body be established--a commission permanently located in Syktyvkar and chaired by a commissioner of the USSR Council of Ministers. Senior officials of the principal ministries and departments participating in formation of the TPK, managers of the leading enterprises of the complex, responsible representatives of USSR Gosplan, the gosplans of RSFSR and Komi ASSR, and the Arkhangelsk Oblplan, should be members of this commission. It would seem that a regional commission of USSR Gosplan for the Timan--Pechora TPK should be organized as a permanently functioning arm of the interdepartmental commission."<sup>8</sup> The All-Union Scientific Research Institute of Systems Research has advanced a number of alternative versions for management of the KATEK, calling for creation of an intersector industrial association on cooperative principles in which ministries would participate on shares by pooling financial resources, allocations, and limits for labor, construction and installation capacities and other resources. Within the association a board would function as a separate unit and would at the same time be a collective body of the client ministries. This top-level body, with strategic and coordinating functions, would "sit in a capital," while it is proposed that a unified directorate of enterprises under construction be organized at the complex.<sup>9</sup>

The idea of creating an all-union industrial association on cooperative principles to manage TPK's has been thoroughly worked out in the All-Union Scientific Research Institute of Systems Research and has been presented for

consideration to the Executive Committee of the Krasnoyarsk Kray Soviet of People's Deputies. All-union industrial associations, under the regulation now in effect,<sup>10</sup> are subordinate to some one USSR ministry (department). This would hardly be applicable to performance of the programs of target-program TPK's, in which a set of different production operations which are specialized, even though they are interlinked, is developed. What is needed here is to create a body which would furnish intersector management. For example, in the Kansk-Achinsk TPK enterprises of 11 all-union and union-republic ministries of the USSR are already in operation or are under construction; balancing their activity must be the content of the work of the management body on the site of the TPK.

We should note, not in reproach of the VNIISI [All-Union Scientific Research Institute of Systems Research], but in order to demonstrate the complexity of the problem, the lack of unanimity of views among its own staff members concerning the form for management of the TPK. For instance, the following point of view has also been expressed in VNIISI: "The role of the body for day-to-day management right on the site of intersector complexes can be performed most effectively by a unified directorate of enterprises under construction, which would replace the sectoral directorates and would assume the functions of the sole client for the complex as a whole."<sup>11</sup> This proposal cannot be justified in legal terms. It is indeed difficult to name a TPK in the USSR today for which such a form of management might be chosen. That is, of course, why the author refers to experience with industrial parks in Bulgaria and agroindustrial complexes in Moldavia. But these are expansive combinations of quite a different kind. The same author advances other proposals as well. He suggests: "Specific multilateral contracts evidently need to be concluded by ministries and departments in order to synchronize construction of interrelated capacities and construction projects belonging to different sectors; otherwise there must be general agreements after the pattern of the agreement on cooperation of the enterprises and institutes participating in building the Sayano-Shushenskaya GES."<sup>12</sup> This again is a research topic of quite a different kind. Contractual relations among enterprises and scientific research institutes cannot take the place of a management body which is supposed to perform coordinating functions.

In studying the problem of the TPK many researchers, economists, geographers and legal specialists examine the possibilities of their formation, functioning and development being managed by kray and oblast soviets of people's deputies. V. P. Gukov and N. G. Perevalov, relying on experience in the development of the Bratsk--Ust'-Ilimsk TPK, consider it advisable to have a body for management of the TPK which would "resolve above all the problems of managing the process of creating the entire economy of the TPK and the functioning of its infrastructure" and which should be granted the powers of a department of the oblastpolkom.<sup>13</sup>

R. I. Shniper puts the matter still more categorically, feeling that the respective kray or oblast soviet of people's deputies should be the main organization responsible for creation of the TPK.<sup>14</sup> M. K. Bandman has also inclined toward this point of view in many of his writings until recently.<sup>15</sup>

The studies done of processes in the formation and functioning of TPK's in East and West Siberia and an analysis of legislative acts and normative sources allow us to conclude that it is not possible to place responsibility for management of TPK's on the soviets of krays and oblasts.

Pursuant to constitutional principles (Article 146 of the USSR Constitution and Article 136 of the RSFSR Constitution), local soviets, and they include kray and oblast soviets, handle all matters of local importance. As a rule creation of target-program TPK's involves dealing with major national-economic problems of nationwide importance. And management of them is a concern of government bodies (at the Union level). That same position is taken by legislation, which specifies that the kray, oblast or okrug soviet of people's deputies "within the limits of its powers provides for comprehensive economic and social development within its jurisdiction...."<sup>16</sup> Pursuant to these legal norms, the kray or oblast soviet "takes part in drafting regional and other programs providing for the formation and development of territorial production complexes and industrial parks located in the jurisdiction of the soviet."<sup>17</sup> Legislation, then, has clearly defined the limits of the powers of kray and oblast soviets with respect to TPK's, i.e., they are to participate in drafting their programs.

Territorial production complexes occupy a relatively small portion of the territory covered by kray and oblast soviets. For example, the area of the Bratsk--Ust-Ilimsk TPK is 90,000 square kilometers, but the area of Irkutsk Oblast in which it has been formed and is functioning is 767,900 square kilometers; the Sayan TPK occupies 140,000 square kilometers, the Lower Angara TPK now in formation occupies 300,000 square kilometers, but the entire area of Krasnoyarsk Kray is 2,401,600 square kilometers. Thus even from this standpoint the kray and oblast soviets are required to balance the economic and social development of the TPK's with the requirements of comprehensive economic and social development of the kray or oblast, which indeed has been envisaged by the legislation, but not to manage the TPK's.

Another reason why the kray and oblast soviets cannot take over management of TPK's is that in this case that management would embrace a broader range of subject matter than set forth in laws of the USSR and of the republic as the subject matter of the coordinating and monitoring powers concerning enterprises, organizations and institutions not under their jurisdiction. Taking the position proposed would signify, for example, that the Krasnoyarsk Kray Soviet would have to deal directly with more than 30 all-union and union-republic ministries on the territory of the territorial production complexes being formed today, and not solely concerning infrastructural matters. In this case the exercise of effective supervision would require fundamental changes in legislation now in effect, and relations between ministries and kray and oblast soviets which now exist by law would have to be radically revised.

It would seem that target-program TPK's must be managed by government bodies at two levels.<sup>18</sup> One of them is the standing commission of the Presidium of the USSR Council of Ministers for TPK's, which would direct the formation and development of all nationwide TPK's being formed in the planning period. The standing commission could be created on the basis of Article 30 of the USSR

Law on the USSR Council of Ministers to prepare proposals related to formation and development of TPK's and to the drafting of the necessary managerial decisions concerning TPK's; to take up interdepartmental disagreements; and to carry out individual commissions of the Council of Ministers related to management of TPK's. The second body would be a regional entity; it could be formed on the basis of Article 19 of the USSR Law on the USSR Council of Ministers, and in conformity with Article 6 of that same law could also be delegated decisionmaking on individual questions in management of TPK's that fall in the jurisdiction of the USSR Government. Such a body might be created even now in Krasnoyarsk Kray, where there are two TPK's in formation (the Kansk-Achinsk and Sayan), and where a third is intended in the future--the North Krasnoyarsk. Thus in the scheme proposed the bodies for management of TPK's would be created on the basis of legislation now in effect.

#### Legislative Regulation of Creation of the TPK

The instruction of the 26th CPSU Congress on working out uniform legal foundations for creation of TPK's and industrial parks and for their interdepartmental management<sup>19</sup> makes it a necessity to establish the legal status of the regional industrial complex.

Before turning to the content and problem area of the enactment which would define the legal status of the TPK, it seems important to examine the possible legal form such an act might take. Since the TPK's are being created on the territory of the Union, and since we are studying target-program TPK's,<sup>20</sup> whose programs and plans comprise parts of state plans for economic and social development of the Union, whose adoption is in turn within the exclusive jurisdiction of the Union as represented by the USSR Supreme Soviet, their principal legal characteristics must be contained in a Union piece of legislation. Pursuant to the rules of Articles 121 and 122 of the USSR Constitution, the form of such an enactment may not be a ukase of the Presidium of the USSR Supreme Soviet. The 1977 USSR Constitution provided that the legislative powers of the Presidium of the USSR Supreme Soviet come down to the right to "make amendments in legislative acts which are in effect" (Article 122, Paragraph 1), that the presidium may make amendments in legislative acts which are in effect "in case of necessity" in a period between sessions of the Supreme Soviet subject to subsequent approval of the ukase adopted in the next session of the USSR Supreme Soviet.<sup>21</sup> In view of these constitutional principles, which not a single body of the Union can alter, the form of the legislation on the legal status of the TPK can only be a law. We will explain this. First, there is no legislative act at the Union level embracing in the problem area it covers the subject matter related to creation of territorial production complexes.<sup>22</sup> That is why the legislative act to be drafted will not be making amendments in existing legislation, but must contain new norms. Second, under present-day conditions there is no case of a "need" to adopt a legislative act that would depart from what is set forth in Article 122, Paragraph 1, of the USSR Constitution.

It would seem that a law of the Supreme Soviet could define the basic tasks and principles of formation of the TPK in the Union, those general foundations on which the USSR Supreme Soviet might deem it necessary to create

territorial production complexes in particular regions of the country. We propose that the USSR law to be drafted might be prefaced with a preamble with the following content: "In the context of the broad program being carried out for the country's economic and social development and to implement the Basic Directions for the Economic and Social Development of the USSR Over the Period of 1981-1985 and up to the Year 1990, adopted by the 26th CPSU Congress, and in connection with the tasks of more optimum use of natural resources, augmentation of the economic potential, increasing the efficiency of the national economy, eliminating departmental isolation in the management of the most important sectors of the economy, and guaranteeing more effective combination of the sectoral and regional principles of managing the economy, the USSR Supreme Soviet deems it necessary to create territorial production complexes in a number of regions of the country on the general foundations set forth in the present law."

The text of the law proper should open with an article setting forth the concept of the TPK, i.e., defining the TPK as a form for solving intersector regional production problems of nationwide importance on the basis of optimum regional organization of the development of the productive forces, and as an entity subject to state administration and economic and social planning. Then it would be worthwhile in a specific article to define the principal tasks of the TPK, which, in our opinion, are the proportional development--pursuant to the interests of the entire state--of interrelated and interdependent entities of different sectors of the economy (the sphere of material and nonmaterial production) in a particular area on the basis of optimum use of labor and natural resources through a combination of centralized management with economic independence and initiative of enterprises, associations and other organizations.

It would be wise for the draft of the law to designate the government body which would have the right to organize and coordinate the entire activity of enterprises, institutions, and organizations making up the TPK, i.e., perform the functions of intersector management. Such a body might be a committee of the USSR Council of Ministers for management of the particular TPK,<sup>23</sup> which would be formed by the USSR Council of Ministers and headed by a commissioner of the USSR Council of Ministers from among representatives of the ministries and departments participating in formation of the complex and from local party and other public bodies and kray and oblast government bodies. In our view it is obligatory that the committee of the Council of Ministers be headed by a representative of the USSR Government possessing powers no less than those of a minister in the USSR Government. There is no need in the draft of the law to define in detail the makeup, structure, jurisdiction or location of the committee of the USSR Council of Ministers for the respective TPK, since all of this must be set forth in the regulation on those bodies which must be adopted by the USSR Council of Ministers.

It would also seem that the law must contain a list of TPK's which are to be formed in the planning period and must define the procedure for approval of the schemes, programs, project plans and plans of each TPK.

The 5-year plan for economic and social development of the USSR includes only those TPK's whose formation is deemed advisable by the USSR Supreme Soviet on the basis of party directives and the basic directions of economic and social development of the USSR adopted by the CPSU congress for the particular period.

Adoption of such a law is also necessary from the standpoint of Article 6, Part 3, of the USSR Constitution, which provides that all party organizations shall operate within the framework of the USSR Constitution. At the present time TPK's are being created on the basis of party directives. The initial decision on creation of the target-program TPK is accordingly contained in a party document. A decision of central party bodies sets forth instructions and principles for solving an urgent economic, social or other problem. The decision of the state is adopted by the country's legislative body. That is why it is necessary for the decision of the state to create territorial production complexes be expressed in a legislative act.

#### Normative Regulation of the Organization and Activity of the Bodies for Management of the TPK

It would seem necessary to draft three legal acts at the Union level to regulate the relations that come into being in the process of a TPK's formation and functioning: first, a regulation on territorial production complexes in the USSR and on their intersector management, which would be adopted by the USSR Council of Ministers; second, a regulation on the standing commission of the Presidium of the USSR Council of Ministers, which might be adopted by the Presidium of the USSR Council of Ministers; and third, a regulation on the regional body of the USSR Council of Ministers--the committee for management of the TPK of the USSR Council of Ministers, which must also be adopted by the USSR Council of Ministers.

The content of the first piece of legislation must evidently be the following:

1. General Provisions. 2. Procedure for Formation of the TPK and the Bodies Responsible for Its Creation. 3. Basic Powers of Government Bodies and Agencies of the USSR and of the Union Republics Related to Formation and Development of Territorial Production Complexes. 4. Management of Territorial Production Complexes.

In the first section it would be advisable to furnish the concept of the TPK and industrial parks, since the latter are integral parts of the TPK. The most accurate definition of industrial parks has been furnished in the "Instructions on Methods ...": "The industrial park is a set of enterprises brought into association with one another on the basis of cooperation and interrelated technology through which the greatest economic benefit is achieved."<sup>24</sup>

In this section the TPK is taken up not only as an entity planned by means of a program, but above all as an entity which is to be managed. The preplan and planning documents on the basis of which performance of the program for

the TPK is possible and necessary, are enumerated. Those TPK documents include the following: schemes for formation of the TPK, the general project plan, the program for formation and development of the TPK, and 5-year and annual plans for development of TPK's.

The second section would contain norms regulating procedure for formation of the TPK and those bodies which would be responsible for its creation. The draft would incorporate the idea that the list of target-program TPK's for the planning period is to be determined by the USSR Supreme Soviet on the basis of party directives. It is this law that can open the channels necessary for their financial backing, material and technical supply, resource support and other backing. The draft would indicate that the USSR Council of Ministers, in agreement with the respective councils of ministers of the union republics (for the place where the TPK is being formed), is to determine the makeup of sectors and branches and areas for formation of large TPK's, their ultimate national economic goals and the basic indicators of economic and social development for each complex. The draft would contain a list of the bodies of the USSR and of the republics responsible for carrying out the programs and plans for formation and development of TPK's.

The third section would regulate the powers of the Union and the union republics in formation and development of TPK's (USSR Gosplan, the council of ministers of the union republic, USSR Gosstroy, USSR Gosbank and USSR Stroybank, USSR Gosnab, union and union-republic ministries of the USSR, the gosplans of the union republics, councils of ministers of ASSR's, and kray and oblast soviets of people's deputies).

Particular attention should be paid to legal regulation of internal economic relations within territorial production complexes on the principle that the industrial associations, enterprises and other economic entities within the TPK operate on the basis of legislation in effect, and it should also define the legal regime of the property of economic bodies, the legal forms of planning, cost accounting (khozraschet) and economic incentives, liability for breaches of economic obligations, and so on.

At the same time formation of the TPK as a single economic system requires that the regional body for management of the TPK be granted coordinating powers, whose elaboration is necessary because of the uniqueness of the managerial situation when territorial production complexes are being formed and developed. It is these powers that determine the peculiarities of the functioning of the mechanism of the TPK. In our view the forms for coordinating the activity of all bodies of ministries and departments (including construction ministries and departments) and regional authorities for government and administration in carrying out the program for the TPK, which have come about as a result of generalizing the practice of the functioning of production operations under the conditions of a TPK, need to be worked out in legal terms. It would seem that to that end we need to grant to the bodies managing creation of TPK's and which are at the level of the government the right to commit (redistribute) investments to the production and social infrastructure which would be determined in the established manner through the sectors and branches making up the complex, as well as the right to exercise government

powers in carrying out the program of the TPK in cases and under conditions when there has been a breach of the comprehensive approach to construction in the process of carrying out the program of the TPK. The decisions of the bodies managing formation of the TPK, cleared with the kray and oblast soviet of people's deputies, are binding on all bodies, ministries and departments concerning questions in development of the production and social infrastructure. They would be carried out through bank channels. An appeal against them would be possible only in the USSR Council of Ministers through the standing commission of the Presidium of the USSR Council of Ministers for formation and development of TPK's.

The bodies for management of the TPK must exercise state supervision over use of limits of state capital investments for productive purposes without intervention in production (technological) activity; must coordinate use of labor resources on the territory of the TPK; and must have the right to redistribute limits on labor and exercise a number of other powers.

In the fourth section of the draft two-level bodies would be defined (at the level of the USSR Council of Ministers and at the regional level) which would be able to manage target-program territorial production complexes. These must be government bodies: the standing commission of the Presidium of the USSR Council of Ministers and the committee of the USSR Council of Ministers (regional body), headed by the commissioner of the USSR Council of Ministers for the respective territorial production complex (complexes)--who would be chairman of the committee.

The standing commission of the Presidium of the USSR Council of Ministers for territorial production complexes could be formed on the basis of Article 30 of the Law on the USSR Council of Ministers. The standing commission might be given the following responsibilities:

- i. preparation of recommendations related to formation and development of TPK's; determination of the bodies and organizations responsible for carrying out programs and plans for formation and development of the respective TPK's;
- ii. coordination of the activity of USSR Gosplan, the councils of ministers of the union republics, ministries and departments which the government has assigned duties in drafting the preplan and planning documents for formation and development of TPK's;
- iii. preparation of the drafts of decisions of the USSR Government with respect to TPK's and consideration of disagreements concerning the drafts of decisions;
- iv. monitoring execution by USSR ministries and departments of decisions of the party and government concerning territorial production complexes and assignments set forth in state plans for the economic and social development of the USSR;
- v. resolution of matters transferred on the basis of Article 6 of the USSR Law on the USSR Council of Ministers for consideration by committees of the

USSR Council of Ministers formed for management of the formation and development of respective TPK's in cases when their lawful decisions have not been carried out by Union and union-republic ministries and departments and local bodies of government and administration, and also when disagreements have arisen between them;

vi. preliminary consideration of the drafts of plans and schemes for formation and development of TPK's prepared by USSR Gosplan, USSR ministries and departments and councils of ministers of the union republics, as well as of reports on fulfillment of plans which have been approved;

vii. organization of the conduct of necessary scientific research or project planning and design projects in all stages during the process of formation and development of the TPK.

And finally, the third act would be the draft of the regulation on the committee of the USSR Council of Ministers for intersector management of the TPK. Aside from the legal basis of creating the committee (Articles 6 and 19 of the USSR Law on the USSR Council of Ministers), this regulation would set forth the committee's tasks, rights and duties, as well as the rules governing the organization of its work. Pursuant to Article 9 of the USSR Law on the USSR Council of Ministers, its tasks might include performance of intersector management of the formation and development of the respective TPK and coordinating and monitoring activity related to carrying out the program of the respective TPK.

The committee of the USSR Council of Ministers for the respective TPK would have the following functions:

i. it would see to solution of the most important comprehensive intersector problems contained in each of the regional programs; it would unify and direct the activity of all bodies and agencies of USSR ministries and departments which have been ordered to carry out state plans for the development of complexes; it would prepare proposals to ensure fulfillment of those plans and to prevent possible disproportions in development of complexes;

ii. it would prepare conclusions concerning the proposals drafted by regional organizations of ministries and departments on the most important matters concerning their development so as to take into account the intersector linkage of those proposals;

iii. it would monitor fulfillment of the assignments of state plans by each of the organizations on the territory of the complex;

iv. within the limits set by the sectors making up the complex it would redistribute a portion of resources for eliminating bottlenecks, in particular to develop facilities of the production and social infrastructure, common to the entire complex, or in case the resources allocated cannot be assimilated by certain participants in creation of the TPK. The decisions of the committee on these matters would be final. They could be appealed only to the USSR Council of Ministers.

The projects of the TPK can be financed only in a coordinated manner over the signature of the chairman of the committee, without which Stroybank would not open up financing for the particular projects making up the TPK. The decisions of the committee, cleared with the kray soviet of people's deputies, would be binding on all organizations of ministries and departments on the territory of the TPK. They would be implemented through bank channels.

The committee would be granted the right to exercise state oversight over the use of limits of state capital investments for productive purposes without intervention in the production (technological) activity of production operations regardless of purpose. The committee would coordinate the use of labor resources on the territory of the TPK, including redistribution of limits for labor, of work items with respect to carrying out the ecological part of regional programs, and of work items with respect to realizing the advances of scientific-technical progress.

#### FOOTNOTES

1. See, for example: G. Chiryayev, "The Birth of Complexes," SOVETSKAYA ROSSIYA, 14 March 1981; V. Prokushev, "Through the Prism of Sunstone," PRAVDA, 20 May 1981.
2. G. Kh. Popov, "Improving Management," PRAVDA, 6 July 1977.
3. G. Kh. Popov, "The Target-Program Approach in Management," VOPROSY EKONOMIKI, No 2, 1977, pp 62-63.
4. "Problemy obshchey teorii sotsialisticheskogo gosudarstvennogo upravleniya" [Problems in the General Theory of Socialist State Administration], Moscow, 1981, p 191.
5. SOVETSKOYE GOSUDARSTVO I PRAVO, No 11, 1978, pp 58 and elsewhere.
6. "Metodicheskiye rekomendatsii po planirovaniyu TPK (Osnovnyye polozheniya). Proyekt" [Recommendations on Methods of Planning TPK's (Basic Principles). Draft], Moscow, 1979, p 20.
7. SOVETSKAYA ROSSIYA, 14 March 1981.
8. KHOZYAYSTVO I PRAVO, No 4, 1982, p 18.
9. PRAVDA, 30 May 1981.
10. "Obshcheye polozheniye o vsesoyuznom i respublikanskem promyshlennyykh ob'yedineniyakh" [General Regulation on the All-Union and Republic Industrial Associations], SP SSSR, No 7, 1973, Item 32.
11. A. Kochetkov, "Developing in a Comprehensive Way," PRAVDA, 16 March 1982.
12. Ibid.

13. V. P. Gukov and N. G. Perevalov, "Experience in Management of the Bratsk--Ust-Ilimsk TPK," in the book: "Problemy regional'noy ekonomiki Vostochnoy Sibiri" [Problems in the Regional Economics of East Siberia], Novosibirsk, 1976, p 71.
14. R. I. Shniper, "Regional'nyye predplanovyye issledovaniya" [Regional Pre-plan Study], Novosibirsk, 1976, p 71.
15. M. K. Bandman, "Planirovaniye i upravleniye protsessom sozdaniya territorial'no-proizvodstvennykh kompleksov" [Planning and Managing the Process of Creating Territorial Production Complexes] Novosibirsk, 1981 pp 16-17.
16. Article 6 of the USSR Law on the Basic Powers of Kray and Oblast Soviets of People's Deputies; Article 6 of the RSFSR Law on the Kray and Oblast Soviet of People's Deputies.
17. USSR Law on the Basic ..., Article 9, Paragraph 5; RSFSR Law on the Kray ..., Article 13, Paragraph 6.
18. V. A. Perttsik, "The TPK in the Ensemble of Management," SOVETSKAYA ROSSIYA, 30 January 1982.
19. "Materialy XXVI s"yezda KPSS" [Materials of the 26th CPSU Congress], Moscow, Politizdat, 1981, p 198.
20. M. K. Bandman, "Programmno-tselevyye territorial'no-proizvodstvennyye kompleksy" [Target-Program Territorial Production Complexes] Novosibirsk 1981.
21. We cannot agree with the comment on Article 122 of the USSR Constitution furnished in the book "Konstitutsiya SSSR. Politiko-pravovoy kommentariy" [The USSR Constitution. Political and Legal Commentary], Moscow, 1982, p 318. It says that the formulation of Article 122, Paragraph 1, "cannot be taken as restricted to the right of making amendments in particular USSR laws. It also signifies the right of original issuance of ukases which are legislative in nature. Such enactments may have to do with a broad range of subjects aside from those which Article 108 of the USSR Constitution has assigned to the exclusive jurisdiction of the USSR Supreme Soviet." But these explanatory remarks contradict the actual formulation of Article 122, Paragraph 1, since it clearly states that the presidium shall if necessary make changes in legislative acts which are in effect. And it accordingly follows from the text that under the USSR Constitution the Presidium of the USSR Supreme Soviet is not authorized to issue any sort of primary (new) ukases of a legislative nature on a broad range of subjects.
22. Only the TaSSR Constitution (Article 142) provides that the state plan for the republic's economic and social development is to contain the programs of TaSSR regional complexes.

23. If such a committee is created within the political administrative unit where several TPK's are being formed, then it would be expected to perform managerial functions for all the TPK's.
24. "Instructions on Methods of Drafting," BYULL. NORM. AKTOV MINISTERSTV I VEDOMSTV SSSR, No 11, 1981, p 16.

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#### Financial Aspects

Novosibirsk IZVESTIYA SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSSR, SERIYA OБSHCHESTVENNYKH NAUK in Russian No 6, 1983 pp 26-34

[Article by G. B. Polyak and B. N. Annenkov, Scientific Research Institute for Finance of the USSR Ministry of Finance, Moscow: "Financial Aspects of Forming Territorial Production Complexes[

[Text] Creation and development of up-to-date large-scale Territorial Production complexes require huge and ever larger capital investments, and the importance of the credit and financial mechanism in increasing the efficiency of capital investments and of the social production of the complexes being created increases correspondingly.

In the context of present practice one of the most important sources of financing capital investments in the formation and development of territorial development complexes is the state budget. Aside from budget appropriations directly to ministries and departments, resources of the state budget are allocated to local soviets of settlements in the area where the TPK is located. The local economy and enterprises and institutions of the social and consumer service infrastructure without which the functioning and development of the TPK are unthinkable, are developed by virtue of appropriations which are forwarded through the channels of local budgets.

Another important source for financing capital investments to create and develop TPK's are the resources of ministries and departments themselves, and their relative share increases as the TPK develops. In West Siberia the share of these resources increased from 20.8 to 32.6 percent from 1971 to 1980.

Long-term credit, the absolute amount of which in financial backing of construction projects in West Siberia increased several times over in the 1971-1980 period, is an important source of financing for capital investments. Because it is granted only for a specific purpose, is repayable and is subject to a charge (the payment of interest), long-term credit performs the important function of stimulating adherence to deadlines for construction, for activation and for attainment of the rated capacity of the projects being built, which has a favorable effect on the efficiency of capital investments and the profitability of production and yields a sizable national economic benefit. But long-term credit financing has not as yet become widespread,

and the reasons for this, in our opinion, lie in the underdeveloped cost-accounting relations in capital construction of associations and ministries which are developers (zastroyshchiki) of TPK's.

Ministries and departments figuring as developers are the investors in construction of the facilities of the TPK; directly or through regional associations and main administrations (for example, the VPO [All-Union Production Association] Tyumen'gazprom or Glavtyumenneftegaz) they supervise performance of plans of capital investments they have drafted on the basis of production plans, plans for financing capital investments, title lists and the respective project planning and surveying documentation, which has been prepared mainly by departmental project planning and surveying organizations.

This predominantly sectoral method of planning and financing the construction of the projects of the TPK often results in departmental isolation, disjointedness and lack of coordination in the use of resources, the squandering of resources over many construction projects, and unjustified costs and losses. The goals of economical and efficient use of financial resources and of balanced and proportional formation and development of territorial production complexes are not always achieved.

Departmental isolation in the use of financial resources and their scattering over a large number of construction projects constitute the main reason for uncoordinated construction and activation of production capacities, which not infrequently results in nonfulfillment of production plans of enterprises, associations and organizations of sectoral ministries operating within the TPK, underrealization of profit, shortage of funds for capital construction, additional need for financial resources to complete partially built projects of the TPK, a general increase in the cost of capital construction, curtailment of construction of "nonbasic," auxiliary projects, and disproportions.

We should bear in mind that enterprises and organizations of different ministries, departments and local soviets located on the territory where the TPK is being formed and developed are the recipients of the financing. Yet the area where the complex is located often does not coincide with the boundaries of political administrative units. In this way departmental isolation is compounded by regional isolation. This isolation has a particularly painful impact on formation of the social and consumer service infrastructure, on coordination of efforts and concentration of resources of all enterprises and organizations in providing to the population the services of enterprises and institutions of the local economy. To be sure, many enterprises use their own resources to carry on a sizable amount of work to provide municipal amenities and to repair facilities belonging to the entire city and facilities for social and cultural purposes. But because financing is done separately, the assimilation of these resources is often inefficient. As surveys of cities have shown, capital investments for development of municipal services and utilities are used as follows: up to 70 percent of all resources for housing construction (the scientific recommendation is that 55-60 percent be used for these purposes), 13 percent for construction of cultural and consumer service facilities (it should be 20-25 percent), 17 percent for utility equipment and social amenities (should be 23-25 percent). A situation comes about as a

consequence where an area that is entirely developed with respect to housing has only half the enterprises and institutions of other sectors of the municipal economy it needs.

All of this is holding back development not only of settlements, but also of the country's productive forces, since lack of the necessary capacities of municipal service enterprises also holds back both housing construction and also industrial construction.

Important steps are now being taken to correct the scattering of financial resources, to curtail unfinished construction, and to achieve punctual activation and attainment of rated capacities within TPK's. For a number of territorial production complexes head offices and also leading departments of the board of USSR Stroybank have been designated. But the ways of exerting pressure afforded by the financial and credit mechanism (including monitoring and penalties) often prove not to be effective enough. Yet the tasks of the financial mechanism are complicated and specific: linkage of sectoral interests of different ministries and departments and local administrative bodies located in the area where the TPK is being formed for the special-purpose use of financial resources; ensuring the stimulative effect toward interrelated cluster location (one form of which is the industrial park), financing of and construction of production and social welfare projects of the TPK on an interdepartmental basis; maximum mobilization and efficient use of financial resources so that production capacities are activated and brought up to rated output on schedule and maximum mobilization and efficient use of other financial resources to be used in the region.

Unity in the conception and unswerving adherence to the principles of financing capital investments in the context of the formation and development of TPK's is taking on great importance to solving these problems. The most important principles which have decisive significance for improvement of comprehensive planning and performance of capital investments in the context of the TPK include target-program allocation of resources for capital construction of the projects of the TPK; planned and comprehensive use of resources allocated to finance capital investments on the scale of the TPK; concreteness and followup on use of resources by the institutions of the financial and credit system; and material adequacy of the financial resources allocated for construction of the projects of the TPK.

These principles must be built into the foundation of the entire effort to improve the financial backing of the formation and development of TPK's, which may be done by stages. In the initial period of formation of the TPK principal attention with respect to finance must obviously be paid to planning the financing of capital investments from all their sources; later, as the economy develops and the organizational foundations are created for unified management of the complex, the transition should be made to centralized planning of all the financial resources to be used in the TPK, i.e., to compiling the summary financial balance of the TPK.

On the basis of what we have said, it seems worthwhile not only to draft long-range programs and 5-year plans (basic indicators) of economic and

social development, summary 5-year and annual plans of capital construction, but also to draft summary 5-year and annual plans for financing capital investments on the scale of the TPK. This is all the more necessary because fulfillment of summary medium-term (5-year) and annual plans of state capital investments on the scale of the TPK, if corresponding plans for financing capital investments do not exist, will inevitably come up against interdepartmental disjointedness, which will stand in the way of solving the problems of interlocked construction of production facilities for social purposes.

Summary plans for financing capital investments of the TPK should envisage (as separate sections) plans for financing capital investments by groups of interrelated sectors on the basis of their specific purpose (those which represent the principal specialization, and those auxiliary and service branches which are ancillary to them) as a function of the peculiarities of the TPK.

It would seem necessary to centralize a portion of the resources planned for formation and development of the TPK in order to finance and build the following on a comprehensive (interdepartmental) basis: production facilities common to groups of enterprises, industrial parks in the TPK as a whole; projects belonging to the production infrastructure and the social and consumer service infrastructure.

The plan for financing capital investments in the TPK must have two parts: income part and expenditure part (Table 1). In the expenditure part of the plan the general limits of capital investments would be set, including those for the projects of sectoral ministries and departments, and outlays for construction of projects which have intersector production importance would be given separately; and then the projects of the production infrastructure and social and consumer service infrastructure, in which outlays for industrial parks and for the TPK as a whole would be given separately.

Table 1. Sample Format of the Summary Annual Plan for Financing Capital Investments of Regional Industrial Complexes (thousands of rubles)

Indicator	Report for Year 19..	Plan for Year 19..			
		Indus- trial Park	Indus- trial Park	Indus- trial Park	Indus- trial Park
		Total	(name)	(name)	(name)
<b>1. Outlays (expenditure part)</b>					
1. Capital investments--total					
2. Including: for construction projects, for sectoral ministries and departments, for clusters of interrelated sectors (of the principal specialization and auxiliary					

Table 1 (continued)

<u>Indicator</u>	Report for Year 19..	Plan for Year 19..				
		Total	Indus- trial Park (name)	Indus- trial Park (name)	Indus- trial Park (name)	
and service branches related to them), with a breakdown of funds at all levels into the following:						
a) for construction of projects of intersector importance for clusters of enterprises, industrial parks and the TPK as a whole						
b) for construction of projects comprising the production infrastructure						
c) for construction of projects comprising the social and consumer service infrastructure						
II. Sources of financing (income part)*						
1. Budget appropriations-- total						
2. Own (centralized) resources of ministries and departments--total						
Including resources for redistribution within the complex to form the Unified Fund for Financing Capital Investments of the Complex (YePK)**						
3. Own resources of enterprises and organizations:						
a) depreciation***						
b) profit***						

Table 1 (continued)

Indicator	Report for Year 19..	Plan for Year 19..			
		Total	Indus- trial Park (name)	Indus- trial Park (name)	Indus- trial Park (name)
c) production development fund***					
d) fund for social welfare and cultural programs and housing construction***					
e) other sources					
Own resources of enterprises and organizations, total					
For redistribution within the complex to form the YeFK alone					
4. Long-term credit					
5. Total funds to finance capital investments					
Funds for redistribution within the complex to form the YeFK alone					

\* Sources of financing are designated for associations, enterprises, ministries, departments, clusters of interrelated branches (principal specialization and auxiliary and service branches related to them).

\*\* Funds for redistribution within the complex make up the TPK's YeFK and are used to finance construction of the following: a) projects of intersector importance common to clusters of enterprises, industrial parks, and the TPK as a whole; b) projects of the production infrastructure; and c) projects of the social and consumer service infrastructure (see the expenditure side).

\*\*\* The established rates are applied to these sources of financing to determine the portion of funds for redistribution within the complex to form the YeFK.

In the income part of the plan the volume of financial resources necessary to carry out capital construction on the scale of the TPK in accordance with the plan is shown as the sum total of planned receipts of funds of enterprises, organizations, associations, combines, ministries and departments by sources of financing. Provision must be made here for the proportions of incoming resources for the Unified Fund for Financing Capital Investments (YeFK) for redistribution of financial resources to build intersector projects of importance to the entire region.

Creation of the YeFK does not eliminate or replace the sectoral form of financing capital investments. Redistribution within the complex is assumed to embrace that portion of the funds of developers necessary to provide for project planning and construction of intersector projects and projects of importance to the entire region, whose construction on an interdepartmental basis has great importance to the balanced and comprehensive (interlocked) formation and highly efficient functioning of the economy of the TPK and of the region where it is located. The body for management of the TPK must be the dispersing authority for the YeFK.

The rates of transfers of funds to the YeFK must be determined on the basis of the specific conditions of the TPK's formation and development on a differentiated basis so as to take into account the profitability and relative share of enterprises, associations, combines and organizations of sectoral ministries and departments in development of the economy and development of the region where the TPK is located; it is advisable that these rates be worked out in large-scale TPK's (such as those, say, in West Siberia) by the bodies for management and coordination (or under their supervision) created in them, but if the latter do not exist (as, for example, in the Orenburg, Mangyshlak and South Yakutia TPK's)--by the ministries which are the head developers and councils for coordination of the activity of developers (councils of directors) of the TPK operating in relation to them. Once they have been worked out, the rates must be approved by USSR Gosplan.

Now we will take up the role and purpose of the summary financial balance as an integral part of the plan for development of the TPK as well as the methodological foundations of compiling it.

Fulfillment of the plan for development of the TPK requires concentration of all resources available in the area. The need accordingly arises for bringing together financial plans of different types: financial plans of economic enterprises and organizations, the budgets of local soviets located within the confines of the TPK, reflecting different aspects and stages of the distribution and redistribution of national income created and used in the given area. This will make it possible to have a complete picture of the formation and use of all financial resources in the TPK; it will make it possible for the financial sector to exert a vigorous impact toward fulfillment of the tasks that have been set in the plan for its development.

The principal task of the TPK's summary financial balance is to determine amounts of financial resources, both centralized, accumulated and redistributed by regional budgets, as well as decentralized resources, i.e., those at the disposition of state enterprises and organizations in the form of a portion of profit, depreciation, funds received from the budget and from superior organizations, and so on, and the directions of their use in accordance with the indicators of the plan for development of the TPK. It is equally important to achieve balance in development plans from the standpoint of the adequacy of their financial resources both in the stage of working out different variants of project plans and also in the stage of their approval. The tasks of the summary financial balance also include attainment of the required level of physical and financial proportions in the economy of the TPK

(which in turn requires establishment of optimum national economic proportions among sectors, achievement of balance between money income and expenditures, squaring the distribution of financial resources with the distribution of physical resources); an analysis of the level attained in mobilization and use of the financial resources of the TPK, and ascertainment of the level of correspondence of this level to the needs for development of the social and consumer service infrastructure.

The sum total of money resources accumulated and used within the confines of the TPK is subject to regional summary financial planning as an integral part of planning the TPK.

The regional summary financial balance must be a unified financial program that has a vigorous influence on formation of operational financial plans; moreover, the indicators of the summary financial balance must on the one hand be linked to the indicators of other plans compiled within the TPK, including the plans of capital investments, and on the other must take into account the ownership of the resources being mobilized.

Table 2 shows the form of the annual balance of the TPK.

Table 2. Principal Indicators of the Annual Summary Balance of the TPK

Indicator	19.. Re- porting Year, Report (total amount)	19.. Current Year, Plan (total amount)	19.. Year Being Planned		
			Re- sources of Plan amount)	Total Amount	Includ- ing Local Budgets
<b>Income</b>					
1. Profit of enterprises and economic organizations left to their disposition and also incoming in the form of payments to local budgets					
2. Turnover tax credited to the revenues of local budgets					
3. Depreciation used by enterprises within the area of the TPK					
4. Receipts from individuals credited to the revenues of local budgets					
5. Miscellaneous revenues and receipts of the economy and local budgets					

Table 2 (continued)

<u>Indicator</u>	<u>19.. Re-</u>	<u>19..</u>	<u>19.. Year Being Planned</u>		
	<u>porting</u>	<u>Current</u>	<u>Re-</u>	<u>Including</u>	<u>Resources</u>
	<u>Year,</u>	<u>Year,</u>	<u>sources</u>	<u>of</u>	<u>Enter-</u>
	<u>Report</u>	<u>Plan</u>			<u>prises and</u>
	<u>(total</u>	<u>(total</u>	<u>Total</u>	<u>Local</u>	<u>Institu-</u>
	<u>amount)</u>	<u>amount)</u>	<u>Amount</u>	<u>Budgets</u>	<u>tions</u>
Total income					
Expenditures					
1. Expenditures for the economy					
Breakdown:					
Capital investments					
Major repairs					
Operating expenses					
2. Outlays for social welfare and cultural programs					
Including:					
Capital investments					
Major repairs					
Operating expenses					
2.1. Expenditures for education					
2.2. Expenditures for health care					
2.3. Expenditures for social security					
3. Expenditures for management					
4. Miscellaneous expenditures of enterprises, economic organizations and local budgets					
Total expenditures					
Including:					
Capital investments					
Major repairs					
Operating expenses					

The 5-year summary financial balance of the TPK is structured differently. It is dependent on the state of the data base because the budgets are compiled only for 1 year. The indicators of the income and expenditure parts of the multiannual summary financial balance of the TPK are best grouped in consolidated form by sections reflecting the ownership of the resources. The size of the resources of local budgets in future is calculated by means of the methods of mathematical economics.

In general the scheme of the multiannual regional financial balance might be represented as follows:

<u>Income</u>	<u>Expenditures</u>
Section A. Resources of enterprises and organizations which they retain and also which have been transferred to their disposition	Section A. Expenditures of enterprises, organizations and institutions
Section B. Revenues of local budgets	Section B. Expenditures of local budgets
	<b>Total expenditures</b>

**Total income**

Compiling the regional summary financial balance offers broad opportunities for determining more accurately the volume of financial resources available in the TPK and necessary for performance of measures envisaged by the plan, to balance physical and financial resources of the TPK, to coordinate use of financial resources both of local soviets and also of enterprises under superior jurisdiction located within the TPK, to concentrate financial resources on the most important lines of the economic and social development of the TPK, to seek out unused potential within the region to finance measures outlined by plans for development of the TPK, to make the most effective use of money resources allocated by the state for development of social production and for the social and consumer service infrastructure in the TPK, to exercise effective oversight over the mobilization and use of financial resources, to exert a vigorous impact on formation of all sections of the plan for development of the TPK, and to achieve combination of regional and departmental interests.

We should note that aside from raising the level of financial planning, an equally important role is played in the problem of the financial support of development of the TPK by improvement of methods of coordination, concentration and use of financial resources. This question is especially relevant with respect to development of the social and consumer service infrastructure.

At the present time, when capital investments are turned over to the sole client for housing construction, the enterprises participating on shares mainly pay for construction of residential buildings. Most of the facilities of the service complex in the city or settlement are erected with the resources of the local budget, which is given the principal load in developing the municipal economy. The lack of sufficient funds in local budgets brings about disproportion in levels of development between the infrastructure and the branches of the production sphere. A disproportion is observed even within the municipal economy: the housing sector develops far faster than the municipal service sector. This situation is greatly furthered by the efforts the state has been making to eliminate the housing problem rapidly and also the desire of enterprises to use the resources available to them mainly for housing construction.

One of the ways of solving this problem is to increase capital investments by recruiting the resources of departments not only for housing construction, but also for development of the entire social and consumer service infrastructure of settlements. Supplements denominated in the percentage of the cost per square meter of the housing stock (up to 20-30 percent--on the basis of scientifically sound standard proportions in distribution of capital investments for development of the social and consumer service infrastructure of the city and for its interlocked development) might become a method of enlisting resources in this way. In cities where this method of attracting the resources of enterprises has already been introduced, resources are being used more effectively, the local economy is developing more proportionately, areas to be settled are being developed in a rounded way, and the conditions are improved for the population's residential life and the services afforded them. There is a need to improve the methods of concentrating the resources from all sources for development of settlements. Legislation regulating the participation of enterprises and economic organizations located within a city or settlement in financing development of the infrastructure must be the result.

At the same time we should note that the method of attracting resources of enterprises to form the infrastructure based on supplements which are percentages of the cost of housing is not a universal method if we bear in mind the prospects for development of cities and the municipal economy in the TPK. As a matter of fact, so long as enterprises expand extensively, increasing the size of the work force, they will always need new housing, and as a consequence, they will be sharing with their resources in development of the branches of the municipal economy. But in future the extensive method will be replaced by intensification of production (even now further expansion of industrial enterprises has as a rule been prohibited in very large cities). Thus it is no longer necessary to recruit additional numbers of workers and to provide them housing. The growth rates of new housing construction are dropping. Consequently, the channels are becoming more narrow for enterprises to transfer their resources to gorispolkoms for development of the municipal economy. But the need for such resources will not disappear, since it is well known that because of the disproportion that exists in development of the branches of the social and consumer service infrastructure because of solving the housing problem for some time yet the need will not be entirely met for the services of enterprises and organizations of other sectors of the municipal economy.

Now and obviously in the future the overwhelming majority of enterprises, when they pay wages to their workers, will actually be almost free of any sort of costs related to the social needs of the workers (except for social security contributions), i.e., at the present time enterprises are covering only a part of the expenditures to maintain the workers; the remainder, which is rather sizable, is being allocated from the state budget, including the local budget.

A certain portion of these expenditures now and evidently in the future will be covered from the financial resources of enterprises. As a rule such resources come from the economic incentive funds and above-plan profit of

enterprises. Enterprises commit these resources to development of the social and consumer service infrastructure. But these funds are being used ineffectively because of departmental isolation.

Under these conditions one of the important problems is for local soviets to bring together these resources of enterprises. One possible way of concentrating the resources of enterprises to finance citywide measures might be formation of funds for development of the local economy. Contributions of enterprises and organizations might be credited to the accounts of such funds specifically opened in the bank, and they would then be committed to financing citywide measures. In addition, such funds might be formed with above-plan revenues which local soviets receive in the course of the current year and also from unused remainders of budget resources for past years. In this connection an analysis should be made of the rules and procedures for the inflow and use of those resources, which will afford local soviets the possibility of displaying economic initiative within the framework of the established rules to solve local problems. The resources mobilized in the development fund might be assigned to the following:

- i. to expenditures which have not been planned in local budgets for the current year (mainly for expenditures on social amenities);
- ii. to expenditures related to the increase of current expenditures of the local budget (except for expenditures governed by a limit), as well as to reimburse expenditures arising because of nonfulfillment of the planned size of revenues;
- iii. to expenditures related to overruns in excess of advance estimates and standard cost rates. For example, coverage of budgeted expenditures for construction of citywide projects and other unplanned expenditures;
- iv. to cover temporary discrepancies in cash flow, etc.

Creation of funds for development of the local economy in settlements will be conducive to strengthening the financial interests of local soviets in the results of their economic activity and to a strengthening of the financial resources of local soviets (which will give their financial base the necessary stability in performing functions and carrying out planned tasks which are their responsibility), to concentration of resources on development of the social and consumer service infrastructure, to more efficient use of physical and financial resources, to a strengthening of economic relations between local soviets and enterprises located within their jurisdictions, to elimination of the practice of the disorderly transfer of physical and financial resources from enterprises to local soviets, to expansion of the financial capabilities of local soviets to eliminate the disproportion between the production and nonproduction spheres and the disproportion within the infrastructure, to a greater influence of local soviets on development of the particular branches of the infrastructure, and to a higher level of service and improvement of services rendered to the population.

Creation of development funds in settlements is an objective necessity brought about by the process of urbanization and by the development of the scientific-technical revolution. This is indicated by the attempts undertaken in our cities to create such funds.

Representatives of local soviet and financial agencies we surveyed in a number of cities favored creation of the development funds. In certain socialist countries local administrative agencies have funds outside the budget with a broad or narrow range of sources from which they are formed and a broad or narrow range of uses. In those countries the existence of such funds is felt to be advisable and worthwhile.\*

Thorough and serious discussion and then implementation of the recommendations enumerated above for improving the planning and concentration of financial resources and for improving methods of financing the creation of TPK's will contribute to more effective use of financial resources, to successful development of TPK's, to raising the level of their economic return, and to speeding up the growth rates of the country's industrial potential.

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#### Long-Range Planning

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[Article by M. Yu. Cherevikina, Institute of the Economics and Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences, Novosibirsk: "Long-Range Planning of TPK's"]

[Text] Two stages can be distinguished in the long-range planning of the territorial production complex: the stage of the preprogram projection (20 years) and the stage of the program projection (10 years). Work on the TPK is done with respect to its specific objective, the forecasting work and the project plan<sup>1</sup> are done in the first stage. Since the complex is coming into being in the context of solving a major regional problem, the goals of developing the complex are defined in the process of drafting the comprehensive target program for solving that problem.<sup>2</sup> In the forecasting work on the complex the propositions of the regional program are stated in specific terms with respect to the regional organization of the economy. In this stage its production and spatial structure are ascertained, possibilities for development of all the elements of the economy are arrived at, and the first comprehensive information is prepared on development of the economy of the TPK so as to take into account the indefiniteness of the premises on which the objective is based and of the sectoral and regional forecasts, i.e., a conception is

\* On the financial support of the development of cities, see: G. B. Polyak, "Byudzhet goroda" [The City Budget], Moscow, Finansy, 1978; by the same author, "On Legal Regulation of the Financial Activity of Local Soviets," SOVETSKOYE GOSUDARSTVO I PRAVO, No 2, 1979.

worked out of the TPK's formation and development. The scheme for formation of the TPK is the result of the forecast study.

The following basic tasks must be performed to achieve these goals in working out the scheme for formation of the TPK:

- i. definition of alternative versions for creation of the complex assuming differing external and internal conditions of its formation;
- ii. definition of alternative versions of the production structure;
- iii. definition of alternative versions of the spatial structure;
- iv. adjustment of the set of norms used for evaluating social development in order to ensure the recruitment and stabilization of labor resources in view of the specific nature of the region;
- v. definition of alternative versions of the set of standards for evaluating environmental protection and optimum use of natural resources so as to take into account the specific nature of the region;
- vi. definition of alternative versions of the requirement for resources: mineral resources, local natural resources, labor resources, and capital investments.

The scheme's structure is determined by its place and role among the other documents pertaining to the complex: it is a preprogram document intended for furnishing the initial comprehensive information for the program of the TPK's formation and development, and therefore the structure of the scheme must correspond to the structure of the program. The structure of the program for formation and development of the TPK is determined by the characteristics of the TPK as a form of spatial organization of the productive forces, by the specific nature of the TPK as an entity being planned, and by the requirements advanced by the process of managing the complex. At the same time the scheme for formation of the TPK is a forecasting document, not a planning document, but as the planning horizon broadens, the requirements of the process of planning and management become less severe, and there is a greater need to reflect trends in the development of the entity itself and its structural elements. That is why the structure of the scheme for formation of the TPK is derived to the greatest degree from the specific nature of the TPK as a form of spatial organization of the productive forces, by the structure of the entity itself.

The scheme for formation of the TPK is not merely one of the preprogram documents--it is the first document on the complex, this is the document that provides the connection between organization of the TPK and the regional program. Thus the structure of the scheme must contain units corresponding to the structural elements of the regional program. There are differing points of view concerning the structure of the program in general and of the regional program in particular.<sup>3</sup> In the instructions on methods<sup>4</sup> very general sections are proposed of "regional" programs (the objective section, the

summary section, and the organizational section); detailed sections are distinguished only so as to take into account the assignment of the targets (a sectoral section and a regional section). We took as the basis a structure that had been tested in drafting the program for economic development of the BAM Zone.<sup>5</sup>

Thus the structure of the regional program and of the program for formation and development of the TPK have necessitated the following units (sections) in the scheme: 1) the summary section; 2) the section for special-purpose facilities (production operations in the sectors comprising the specialization and those production operations which round them out); 3) the production infrastructure; 4) the construction capability; 5) project planning and surveying; 6) capital investments; 7) labor resources; 8) the social infrastructure; 9) optimum natural resource utilization and environmental protection.

In our view this structure of the scheme gives the forecast for development of the elements of the economy of the TPK the foreshortening of a program, guarantees technological unity with the drafting of the scheme for formation and the program for formation and development of the TPK, makes it possible to distinguish not only the final, but also the intermediate information on the structural units, and, if necessary, to transfer that information to the regional program and the program for formation and development of the TPK.

#### Interrelation of the Scheme for Formation of the TPK With the Comprehensive Target Program for Solving Regional Problems

When the scheme for formation of the TPK is worked out, the propositions of the regional program on regional organization of the productive forces are stated in more precise and specific terms. The scheme for formation of the TPK is an integral part of the regional program in the stage of the scientific research study establishing the "feasibility of the economic specialization and economic structure of the regional economy and also substantiating the prospects for development of existing TPK's and formation of new ones."<sup>6</sup>

The scheme for formation of the TPK is worked out at the same time when the prospects are being worked out for the social and economic development of the region where the program is to be carried out, when the ecological state is being analyzed on the basis of the general scientific study of the region, and when the analysis is being made of the level of development of the region that has been attained and of a number of partial project planning and surveying works, above all schemes for development of the branches participating in the regional program. That is why connections with the scheme for formation of the TPK must be two-way. In one direction the connections reflect the premises adopted in statement of the objective: preliminary alternative versions of assignments for the production of the products of the sectors comprising specialization, and the makeup of those production operations; a number of partial indicators of the population's standard of living and the state of resources of the biosphere, which are "marginal" for the given region. The connections in the opposite direction, the feedback, provide a description of the basic forms of geographic organization of the productive

forces of the region where the regional problem is being solved, and on that basis the order of priority in development of the area is determined, as is the order of priority in forming the TPK and the industrial park making it up, which has paramount importance to the investment stage of the regional program.

An examination of Figures 1 and 2 shows in graphic terms that working out the scheme for formation of the TPK requires an ongoing (stage-by-stage) exchange of information both with the investment-project and production-technology units as well as with the unit for optimum use of natural resources and environmental protection, the unit of the standard of living and the resource unit, which in turn necessitates a clear delineation of the tasks to be performed in the scheme for formation of the TPK and in the regional program. That delineation must be done not only for the final tasks, but also for the auxiliary ones. That requires building up the technology for working out the scheme for formation of the TPK, i.e., identification of the types of economic planning problems, their basic composition and the sequence in which they would be done for the structural elements of the scheme, adoption of the list of indicators and the sequence for obtaining them, and discovery (or building) of the mathematical-economic models appropriate to the process of working out the scheme for formation of the TPK.



Figure 1. Flows of input information of the scheme for formation of the TPK coming in from the regional program: B--targets for output of sectors comprising specialization; γ--standards pertaining to the state of resources of the biosphere; θ--standards as to the adequacy of the supply of services of the social infrastructure to the population; L--size of the population; (A ...)--technical-and-economic indicators of projects (output, installed capacity, resource requirement).

Key:

1. Basic directions of long-range regional scientific-technical policy
2. Level of economic development attained by the region where the regional program is being carried out

### Key to Figure 1 (continued)

3. Basic directions of changes in proportions of the economic development of the region where the regional program is being carried out
4. Scheme for formation of the TPK
5. Ecological forecast
6. Demographic forecast and forecast of trends in social development
7. Schemes for development of sectors and branches (characteristics of projects, TED's [technical and economic reports]), TEO's [technical and economic substantiations] of conditions for estimation of reserves or a feasibility TED on detailed prospecting

Source: The aspects of work on the scientific and planning basis of regional complex programs are taken in accordance with proposals in the work: "Regional'noye programmnoye planirovaniye. Voprosy teorii i praktiki" [Planning With Regional Programs. Aspects of Theory and Practice], Novosibirsk, 1981, p 183.

### Technology for Working Out the Scheme for Formation of the TPK (Logic Flowchart)

Working out the scheme for formation of the TPK begins in the summary unit, into which the preliminary alternative versions of the basic parameters of the complex are fed. They include the premises adopted in statement of the objective--targets for production of the sectors and branches comprising specialization; indicators reflecting the living conditions of the population; and standards pertaining to the state of resources of the biosphere. These indicators are delivered to the units in which they are detailed and revised from the standpoint of the possibility for development of production, use of regional resources, adequacy of labor resources, and so on. The requirements of the sectors and branches comprising specialization, possible volumes of output and locations are analyzed in the unit of special-purpose projects on the basis of the premises adopted in statement of the objective and the proposals of ministries and departments, and the requirements of the sectors and branches comprising specialization for resources necessary to produce the assumed volume of output are ascertained. Following ascertainment of the resource requirement of the production operations of sectors and branches comprising specialization the load on the infrastructure and on resources is analyzed in the units of the construction capability, the production infrastructure, capital investments, labor resources, and environmental protection, and a forecast is made of their development and use.

A comprehensive forecast is made in the summary unit for purposes of working out an adjusted and balanced variant for formation of the TPK. Thanks to interlinkage possible changes in the branch structure of production, volumes of output and resource requirements are ascertained. The data are fed into the respective units for revision.

A base variant is chosen in the summary unit for working out balanced alternative versions of the TPK's development; that base variant will later serve as the basis for working out the general project plan of the TPK and the program for formation and development of the TPK.

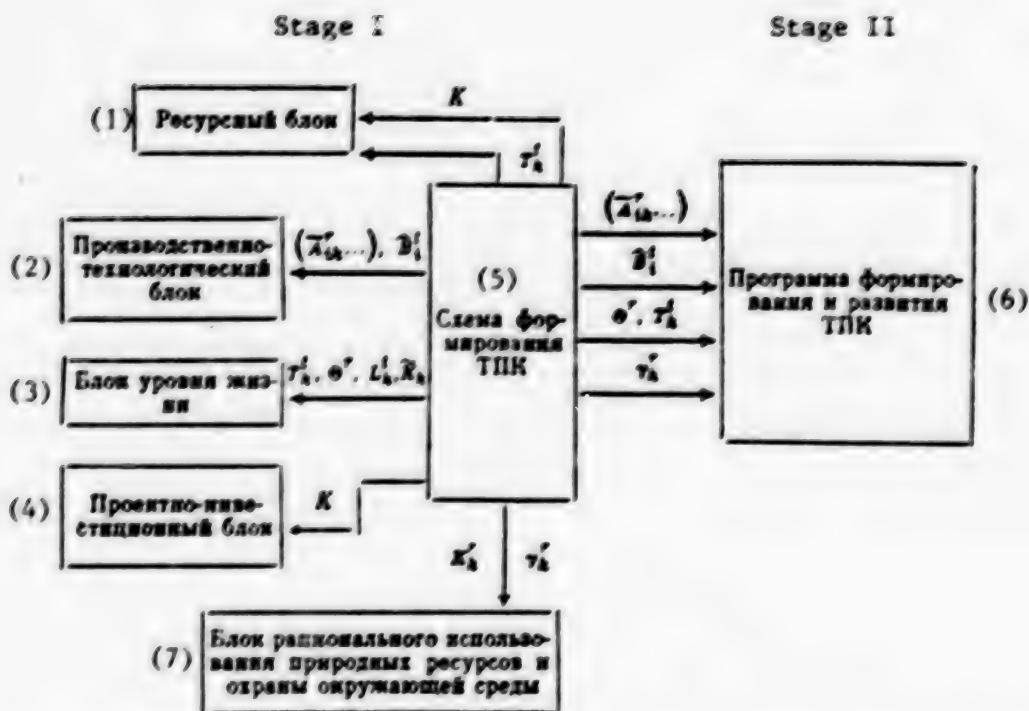


Figure 2. Flows of output information fed to the regional program from the scheme for formation of the TPK: Stage I--scientific and project planning preparation of the regional program (comprehensive scientific research programs); Stage II--resource and investment work on the regional program;  $(\hat{A}_{ik}^t, \dots)$ --variant of the technical-and-economic indicators of projects of the TPK chosen;  $\hat{B}_1^t$ --volumes of output of the branches and sectors comprising specialization, by periods;  $T_k^t$ --labor resources of the area  $k$  used in the period  $t$ ;  $O^t$ --variant of the set of standards adopted as to adequacy of the services of the social infrastructure rendered to the population;  $\gamma_k^t$ --standards as to the state of resources of the biosphere for the areas  $k$ ;  $K_k^t$ --capital investments in the system of natural conservation measures;  $\hat{X}_k^t$ --capital investments in the social infrastructure;  $K$ --total volume of capital investments in the TPK;  $L_k^t$ --size of the population in the area  $k$  during the period  $t$ .

Key:

1. Resource unit
2. Production technology unit
3. Standard of living unit
4. Investment project unit
5. Scheme for formation of the TPK
6. Program for formation and development of the TPK
7. Unit for optimum utilization of natural resources and environmental protection

The program for formation and development of the TPK is the basic planning document for the complex; it immediately precedes the drafting of the 5-year plan and represents its basis. Requirements which a planning document must meet have to be fulfilled for the program of the TPK: targets must be specifically assigned, assignments must be binding, and there must be internal consistency among assignments, resources and deadlines for performance.

There are two features of the TPK which make it necessary for the program of the TPK to be part of the planning process and the stage of working out the basic directions in the procedure of long-range planning:

1. Balance work on the resource backing for the goals of the program of the TPK (regarded as a specific implementation of the decree of the CPSU Central Committee and USSR Council of Ministers dated 12 July 1979 pertaining to the tasks of forming TPK's).
2. Inclusion of the process of drafting the program of the TPK in the ASPR (which will facilitate the transfer to 5-year and annual planning of the TPK, will make it possible to make a natural transition to the structure and indicators of a plan, to delineate the economic planning problems to be solved in long-range and medium-term planning procedures).

Principal attention in drafting the program of the TPK is paid to the process of forming the complex and above all to the investment process. That is why the program of the TPK, by contrast with regional programs for comprehensive development of the area, social programs, and environmental protection programs, falls among the regional investment programs.

The process of drafting the program of the TPK is closely interrelated to the process of working out the TPK's general project plan. The program is based on the workups done for the general project plan, and its basic propositions must be confirmed by the respective general project plan. The drafting work is done side by side, in several stages. The last stage of drafting the program is based on the final (approved) variant of the general project plan. This cycle includes obtaining project planning information, analyzing that information, adjusting the principal indicators (targets and resources), and communication of the revised information to the drafter of the general project plan.

The objectives and basic tasks in drafting the program for formation and development of the TPK are defined in accordance with its place and peculiarities in the planning process.

The Objective: drafting the system of assignments and measures ensuring attainment of the ultimate objective of creating the TPK, as well as determination of the principal indicators of the complex for their inclusion in the basic directions of the economic and social development of the USSR.

The Tasks:

1. Proceeding from the basic objective of forming the TPK, to determine the stages of formation of the TPK, the tasks (subobjectives) of each stage and the deadlines for their performance.
2. Work out alternative versions for realization of the objectives by stages so as to take into account the necessary adaptation in case of changes of external situations and internal conditions of formation of the TPK.
3. Adopt the list of production operations of the sectors and branches comprising specialization and of the principal facilities of the infrastructure, indicating the character and scale of relations among them.
4. Work out the basic indicators of the economic and social development of the TPK as the basis for compiling the 5-year plan (with separate indication of the share of ministries and departments).
5. Define the assignments for ministries and departments whose associations, enterprises and organizations are participating in carrying out the program regardless of the area of their location.
6. Work out the network schedule for formation of the TPK in time.
7. Determine the total volume of resources (including basic raw materials, supplies and equipment), indicating that portion which is produced in the TPK itself (devise balances for expenditure of resources most important to the TPK).
8. In order to achieve the objective of creating the TPK work out the system of measures (indicating the entity responsible) which ensure: a) comprehensive development of the infrastructure and of production operations rounding out the complex; b) optimum use of natural resources and environmental protection; c) creation of the projected living conditions of the population; d) interaction of ministries and departments; e) material and technical supply and financing.

The specific nature of the TPK presupposes a certain structure of the program for formation and development of the TPK, a structure which aside from the sections indicated in the structure of the flowchart, includes a section of physical balances and a section for improvement of planning and management.

The sections of the program of the TPK correspond to a number of sections of the national economic plan, the plan of the sector or branch, and the plan of the oblast, which makes it possible to enforce technological unity in drafting the program of the TPK and the plan, as well as to use methods that already exist to identify planning functions and indicators in drafting the program for formation and development of the TPK.

## Technology for Drafting the Program for Formation and Development of the TPK (Logic Flowchart)<sup>7</sup>

Project plan information is fed into the subunit of project planning and surveying upon completion of the first stage of project planning, which has as its basis the scheme for formation of the TPK. The most important input information--information from the general project plan of the TPK--is stated in specific terms in that subunit, and progress in its preparation is monitored. The information then goes on to the subunits of special-purpose projects, the construction capability, the production and social infrastructures, labor and personnel, and environmental protection. In these subunits an analysis is made of formation and development of the respective units of the economy of the TPK on the basis of a comparison of project planning information with the tasks and the indicators in statement of the objective in the scheme for formation of the complex. The purpose of this analysis is to check fulfillment of the requirements of comprehensive development, to take into account possible changes based on the data of workups being done in sectors and branches, to devise internally consistent alternative versions for the creation and functioning of all the elements of the economy (see the chart below). In the summary subunit a comprehensive analysis is made to discover the balance of capacities with the need for the product and for the services of the infrastructure, to check the internal consistency of activation of all the projects included in the complex, and the balance between resources and the need for them. The revised data are fed back into the subunits for drafting the list of measures supporting the variant for formation of the TPK which has been chosen. On the basis of the list of measures by subunits indicators of the program for formation and development of the complex are worked out; they are the information for calculation of a number of balances of resources and production--consumption of the services of the infrastructure. On the basis of the balances the basic indicators of the social and economic development of the TPK are worked out in the summary subunit and then fed into the draft of the basic directions of the economic and social development of the USSR.

### Functional Makeup and Structure of the Unit for Formation of TPK's in the Stage of Drafting the Basic Directions in the Long-Range Planning Procedure (Fragment)

<u>Functional Subunits</u>	<u>Functional Tasks</u>	<u>Indicators To Be Worked Out</u>
Summary	Working out of alternative versions of the program for formation and development of the TPK as a function of strategies for realizing the ultimate objectives of formation of the TPK and adjustment measures  Development of the network schedule of measures involved in formation and development of the TPK	Output of production operations of the sectors and branches comprising specialization at the end of the 5-year periods under consideration  Activation of capacities of production operations of the sectors and branches comprising specialization and production operations rounding out the complex and the

## Functional Makeup and Structure (continued)

<u>Functional Subunits</u>	<u>Functional Tasks</u>	<u>Indicators To Be Worked Out</u>
	<p>Devising the reference social and economic indicators of the TPK</p> <p>Achieving through the respective subsystems of the ASPR internal consistency and interlocking of indicators of the TPK's development with indicators of development of the sectors and branches whose production operations are included in the makeup of the complex, and of republics and oblasts in which the TPK is located</p>	<p>projects of the infrastructure by 5-year periods, in a regional breakdown</p> <p>Limits of capital investments, their technological, sectoral and regional composition, as a whole and by 5-year periods</p> <p>Number of personnel of the TPK in breakdown by skill characteristics, sector and region, by 5-year periods</p> <p>Consolidated indicators of the development of the service sphere and indicators of personal consumption by individual forms (the backing for which requires specific decisions which take into account the peculiarities of the region)</p> <p>Most important standards pertaining to the state of resources of the biosphere</p>
Project planning and surveying	<p>Coordination of preparation of the general project plan of the TPK and monitoring the delivery of project plans and estimates for the general project plan</p> <p>Compiling the unified program of project planning and surveying work for the TPK, adjustment to the respective sectoral subsystems of the ASPR</p>	<p>Volume of project planning and surveying work to be done on the projects of the TPK and their distribution among executors in a breakdown by 5-year periods</p> <p>Determination of outlays for project planning and surveying</p>
Capital investments	<p>Analysis of the scheme for formation of the TPK and compilation of the preliminary balance of capital investments</p> <p>Drawing up lists and title lists of construction sites</p> <p>Compiling the balance of capital investments, determination of the scientifically</p>	<p>Limits of capital investments, their technological, sectoral and regional composition for the TPK as a whole and by 5-year periods</p>

## Functional Makeup and Structure (continued)

<u>Functional Subunits</u>	<u>Functional Tasks</u>	<u>Indicators To Be Worked Out</u>
	substantiated requirement for capital investments for the TPK as a whole and by 5-year periods, distribution of capital investments in accordance with priorities, interlinkage and interconditionality of production operations and the infrastructure	
Projects comprising the objective	<p>Analysis of changes by comparison with the scheme for formation of the TPK, of the proposals of the sectors for development and location of production operations, and their adjustment on the basis of the objectives for development of the TPK and on the basis of the workups done in preparing the general project plan of the TPK</p> <p>Working out the indicators for development of projects comprising the objective and the production operations rounding out the complex, their adjustment to the sectoral subsystems of the ASPR, and followup on inclusion in the basic directions for development of the respective sectors and branches</p> <p>Drafting of measures aimed at fulfillment of the projected location and development of projects comprising the objective and production operations rounding out the complex</p>	<p>For each project comprising the objective and for consolidated production operations rounding out the complex the following indicators, by 5-year periods:</p> <p>Output, flow capacity or traffic capacity</p> <p>Limit of capital investments and volume of construction and installation work</p> <p>Number of workers</p> <p>Electric power consumption</p> <p>Thermal energy consumption</p> <p>Water consumption</p> <p>Size of industrial site</p> <p>Public health hazard class</p> <p>Requirement for basic types of raw materials, supplies and equipment</p> <p>Calculated freight traffic</p>

### FOOTNOTES

1. The general project plan of the TPK is the result of the project planning work.

2. Hereafter we will use the term "regional program."
3. Ye. D. Novikov and Yu. M. Samokhin, "Kompleksnyye narodnokhozyaystvennyye programmy" [Comprehensive National Economic Programs], Moscow, 1976, p 35; A. R. Leybkind and B. L. Rudnik, "On the Structural Aspect of Comprehensive National Economic Programs," IZV. AN SSSR, SER. EKON., No 3, 1975; A. S. Marshalova, "Structure of Comprehensive Regional Programs," IZV. SO AN SSSR, SER. OБSHCHESTV. NAUK, No 1, Issue 1, 1980.
4. "Instructions on Methods of Drafting Comprehensive Target Programs for Solving Regional Problems and Formation and Development of Territorial Production Complexes," in the book: "Sovershenstvovaniye khozyaystvennogo mekhanizma. Sbornik dokumentov" [Improvement of the Economic Mechanism. Collection of Documents], Moscow, Pravda, 1980, pp 55-57.
5. A. S. Marshalova, "Structure of Comprehensive Regional Programs"; "Regional'noye programmnoye planirovaniye. Voprosy teorii i praktiki" [Planning With Regional Programs. Aspects of Theory and Practice], Novosibirsk, Nauka, 1981, 290 pp.
6. "Regional'noye programmnoye planirovaniye ...," p 175.
7. Provided for in the unit "Formation of TPK's" in the subsystem "Regional Plan" of the ASPR of USSR Gosplan.

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#### Five-Year Plan Projections

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[Article by N. I. Larina, Institute of the Economics and Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences, Novosibirsk: "Aspects of Preparing the Draft of the Five-Year Plan of the TPK"]

[Text] Basic indicators of economic and social development for the period 1981-1985 were worked out for four TPK's in Siberia. This was the first attempt to plan TPK's, an attempt which should suggest directions for improving the structure, makeup and methods of working out the indicators of the 5-year plan.

The approach presented below to preparing the draft of the 5-year plan of a TPK is based on experience in research into the problems of formation of the TPK built up in the IEIOPP SO AN SSSR. The list and content of documents necessary for planning and managing the creation of a TPK were worked out in detail by M. K. Bandman.<sup>1</sup> In accordance with these documents the ultimate goal of forming a TPK and the basic conditions of achieving that goal are reflected in the program for creation and development of the TPK. In the

process of drafting the 5-year plan of the TPK that objective and those conditions are stated in specific terms, tasks are specifically assigned, and consistency is achieved with the system of sectoral and regional plans.

The makeup of projects embraced by the 5-year plan of the TPK is determined by their purpose and by the phase in the complex's formation.<sup>2</sup> For the sectors comprising specialization and the production operations rounding out the complex these are the enterprises that are in the stages of project planning, construction and attainment of rated capacity. It is in these stages that the target-program approach is needed to solving intersector problems so that they are subordinated to the single objective of formation of the TPK and the foundation is thereby laid for the effective functioning of the enterprises. But as soon as the enterprises comprising specialization and the production operations rounding out the complex reach rated capacity, management of the process of their functioning must be done in the usual way through the existing system of sectoral and regional plans.

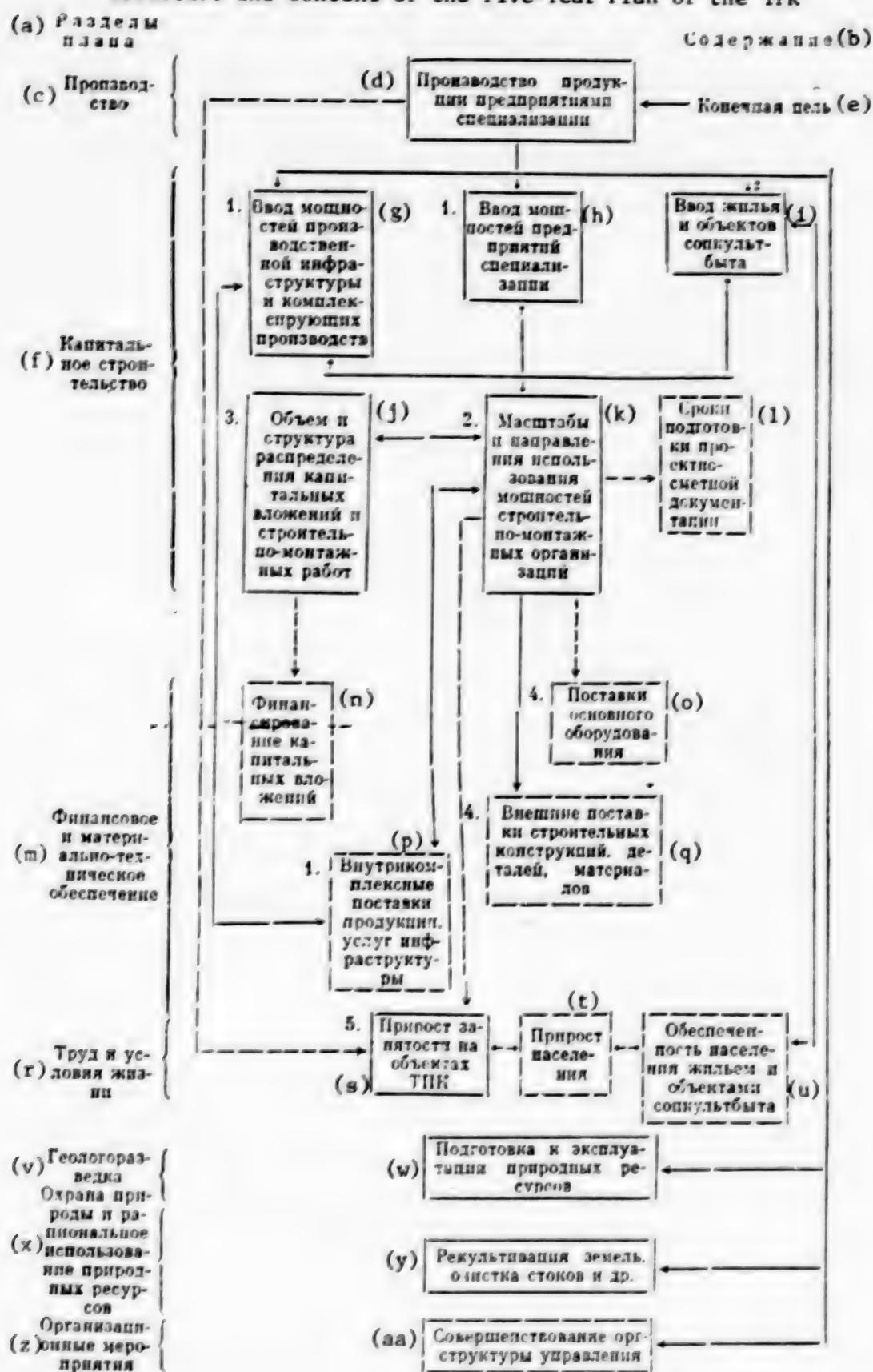
The projects making up the production infrastructure, in our opinion, must be reflected in the plan of the TPK regardless of the phase of its formation. The projects of the social and consumer service infrastructure must be included in the 5-year plan of the TPK only for the periods of project planning and creation. Their functioning has to be reflected in the 5-year plans of the economic and social development of autonomous republics, krays, oblasts, okrugs, rayons, cities, and so on.

Experience in formation of Siberia's TPK's shows that target-program planning must be extended to capital construction, to financial backing and material and technical supply of the process of construction and attainment of rated capacity, to creation of conditions for recruiting and holding labor resources, to furnishing prepared stocks of minerals to production operations, to environmental protection and to optimum utilization of natural resources. Enterprises and organizations of different ministries and departments, each of which is guided by its own plan, are participating in carrying out these measures. In cases when their interests do not coincide, various disproportions and imbalances occur, detracting from the effectiveness of forming the TPK. If this is to be avoided, when the indicators of the 5-year plans of enterprises are being worked out, they have to be subordinated to the single objective of creating the TPK and the results set down (represented) in the form of indicators of the 5-year plan of the TPK.

The 5-year plan of the TPK will contain only those indicators characterizing intersector connections and the proportions which must be achieved in accordance with the objectives of creating the TPK.

It is proposed that the measures enumerated above be distinguished in the form of sections of the 5-year plan of the TPK, which would in turn be supplemented by the sections "Production"<sup>3</sup> and "Organizational Measures" (see the chart). Indicators of the volume and dynamic pattern of output of enterprises comprising specialization are reflected in the section "Production." They characterize the ultimate objective of forming the TPK and are included in the plans of those 5-year periods in which the process of attaining the rated output of these enterprises begins.

### Structure and Content of the Five-Year Plan of the TPK



**Key to Chart:**

- a. Sections of the plan
- b. Content
- c. Production
- d. Output of enterprises comprising specialization
- e. Ultimate objective
- f. Capital construction
- g. Activation of capacities of the production infrastructure and production operations rounding out the complex
- h. Activation of capacities of enterprises comprising specialization
- i. Activation of housing and facilities for social, cultural and consumer services
- j. Volume and proportional composition of distribution of capital investments and construction and installation work
- k. Scale and directions of use of capacities of construction and installation organizations
- l. Deadlines for preparation of project plans and estimates
- m. Financial backing and material and technical supply
- n. Financing capital investments
- o. Deliveries of principal equipment
- p. Deliveries of products and services of the infrastructure within the complex
- q. External deliveries of building fabrications, parts and materials
- r. Labor and living conditions
- s. Growth of employment at the projects of the TPK
- t. Population growth
- u. Supply of housing and social, cultural and consumer service facilities for the population
- v. Geological exploration
- w. Preparation of natural resources for exploitation
- x. Natural resource conservation and optimum use of natural resources
- y. Recultivation of land, wastewater treatment, etc.
- z. Organizational measures
- aa. Improvement of the organizational structure of management

Indicators characterizing the intermediate objectives of creating the TPK and the principal intersector proportions of construction are included in the section "Capital Construction." The intermediate goals of creating the TPK in the 5-year period are expressed in the form of a target for activation of capacity. They are determined from the program for creation and development of the TPK. They are included in this section because activation of capacity at the same time characterizes the result of the construction process.

At the present time capital investments to create a TPK are allocated to the various ministries and departments. At the same time capital investments to create the production infrastructure, housing and many facilities for cultural and consumer services as a rule arrive through the ministries of the sectors comprising specialization and of the production operations rounding out the complex. Very often in areas where new construction is taking place disproportions are observed between the amounts of capital investments

allocated and the capacities of construction organizations. Given the limited nature of capital investments, ministries usually cut back first on limits for projects comprising the infrastructure and housing. This breaks down proportionality in activation of capacities of enterprises comprising specialization, production operations rounding out the complex, and projects making up the production and social infrastructures, which detracts from the effectiveness of creating the TPK. That is why in the process of drafting the indicators of the 5-year plan of the TPK the necessary amounts and structure of capital investments as set forth in the program for creation and development of the TPK are squared with the limits allocated to various ministries and departments.

The deadlines for preparing project plans and estimates for the TPK as a whole and for the individual projects also have to go through intersector adjustment and have to be monitored.

There is a need for comprehensive linkage of the amounts of construction and installation work planned at the individual projects of the TPK with the production capacities of construction organizations.<sup>4</sup> In this way unused potential is discovered and the need for expansion of the capacities of local construction organizations or to bring in construction facilities from outside (organization of the watch method of construction, and so on) is determined more exactly.

Four groups<sup>5</sup> of indicators (see the chart) are included in the section "Financial Backing and Material and Technical Supply."

The target-program approach has to be taken to planning the indicators of material and technical supply, i.e., they have to be included in the 5-year plan of the TPK, because the numerous suppliers of raw materials, products, supplies and equipment belong to different ministries and departments. Plans for distribution of products are shaped under the influence of declarations of many consumers, among whom the projects of the TPK may occupy a negligible place. A violation of the character of the formation of delivery connections is very important to the TPK, since it causes a delay of deadlines for activation of capacities of certain projects and an increase in the costs of its creation.

A sizable place is given in this section to physical balances of deliveries of products and services of the infrastructure within the complex. They are calculated so as to take into account the growth of capacities at the projects of the TPK and make it possible to set down the required proportions between the functioning of enterprises comprising specialization, the production operations rounding out the complex, and the facilities of the infrastructure. Balances are included in the plan for furnishing to projects under construction building materials, structural elements and fabrications produced at enterprises in the production capability for construction of the TPK.

Problems in the use of labor resources and pertaining to the living conditions of the population are revealed most fully in regional plans.<sup>6</sup> Those of

them whose solution is closely related to performing the production tasks embraced by the 5-year plan of the TPK are included in that plan (in the section "Labor and Living Conditions"). Indicators of the growth of the labor force and of the population brought about by formation of the TPK need to be examined in order to trace the interconnection between construction of production facilities and construction of nonproduction facilities at the points where the projects of the TPK are located.

The problem of the scale of housing construction and construction of cultural and consumer service facilities cannot be dealt with separately from the problems of construction of production facilities, since the rate of population growth of the TPK depends mainly on the growth of employment at the new production facilities activated. Capital investments to provide the social infrastructure for workers and members of their families are mainly allocated through various ministries and departments. The actual process of housing construction and construction of cultural and consumer service facilities have to be examined in their interrelationship to the process of construction of production projects, since they compete in the distribution of building materials, machinery and labor resources. That is why indications of the size of the labor force and growth of the population are used as the basis for justifying the need for capital investments and for calculating the necessary amounts of housing construction and construction of cultural and consumer service facilities. This information is reflected in the section "Capital Construction." The resultant indicators for the adequacy of the population's supply of housing and facilities for social, cultural and consumer services are given in the same place.

The section "Geological Exploration" is worked out for TPK's in whose formation preparation of the raw materials base is an important stage. In this stage the linkage has to be made between the dates and amounts of geological explorations with the dates and amounts of the mining of minerals, i.e., the actions of different ministries and departments concerning utilization of natural resources have to be coordinated. Summary indicators of geological explorations to be done in accordance with the program for creation and development of the TPK by various ministries and departments are given in the same place.

The section "Natural Resource Conservation and Optimum Use of Natural Resources" contains indicators characterizing assignments for carrying out the measures of natural resource conservation. Amounts of capital investments for these purposes and assignments for activation of capacities of treatment facilities are reflected in the section "Capital Construction."

And finally, the section "Organizational Measures" is introduced in order to ensure planned formation of economic connections at the newly activated projects of the TPK.

Thus this structure of the 5-year plan of the TPK makes it possible to subordinate the process of creating the entire set of projects to a single goal, at the same time taking their functional purpose into account. Enterprises comprising specialization are characterized by the indicators of output,

activation of production capacity, the volume and pattern of capital investments, the growth of the work force, the requirement for principal types of equipment and for the output of production operations rounding out the complex and for services of the infrastructure; as well as by the indicators of the scale of exploitation of natural resources and natural conservation measures.

The production operations rounding out the complex and the projects of the infrastructure are characterized by the same set of indicators except for the assignment for output. It is replaced in the plan by the assignment for distribution of output among the projects of the TPK. Construction and installation organizations are represented by indicators of the volume and pattern of construction and installation work, the need for project plans and estimates, building materials, structural parts and fabrications, and the growth of employment.

The social aspects of creation a TPK are expressed in indicators of housing construction and construction of cultural and consumer service facilities. In addition, the 5-year plan reflects the TPK's interrelations with the enterprises and organizations not actually a part of it, but influencing the process of its creation. These are project planning organizations and numerous suppliers of basic equipment, building materials, structural parts and fabrications.

This kind of heterogeneity in the presentation of indicators of various projects results from the desire to minimize the entire set of indicators in the 5-year plan. At the same time the proposed system of indicators is broader than that referred to in the instructions on methods,<sup>7</sup> and the one used in drafting plans of TPK's for the 11th Five-Year Plan. It is proposed that additional indicators be included in the 5-year plan of the TPK characterizing the state of project planning and surveying, the activity of construction and installation organizations, financial backing and material and technical supply, calculation of population growth, the actual supply of housing and social, cultural and consumer service facilities, the list of projects for non-production purposes to be transferred to the balance sheet of local soviets of people's deputies.<sup>8</sup> In the diagram the boxes containing these indicators are made with dotted lines. The additional indicators complicate the process of drafting the 5-year plan of the TPK. But the use of mathematical-economic methods and models will make it possible to do this work within the time assigned. The information on the basis of which it is proposed that the 5-year plan of the TPK be drafted does really exist. It is only necessary to set up the process of gathering it and the required processing. We will be speaking about this in more detail below.

The sections of the 5-year plan must be preceded by information on the composition of the TPK: on the enterprises (construction sites) and facilities of the infrastructure, indicating the respective ministries and departments, and also a description of the location of the projects, with indication of the cities developing in accordance with the program for creation and development of the TPK.

All the indicators of the 5-year plan of the TPK are worked out for each year of the 5-year period, and the location and departmental subordination of enterprises and organizations involved are indicated. The indicators in the section "Labor and Living Conditions" and of activation of housing and facilities for cultural and consumer services are drafted in a breakdown by cities and settlements. This will make it possible to trace the connection of the 5-year plan of the TPK with the system of sectoral and regional 5-year plans and bring the individual indicators into conformity with them.

The indicators embraced by the 5-year plan of the TPK are closely interconnected, i.e., changing one entails a change of another one. These interconnections are shown in the diagram by arrows. Arrows pointing in one direction indicate rigid connections. For example, the ultimate objective of creating the TPK (deadlines and volumes of production of products comprising the specialization) dictates the dates and scale of activation of projects of the TPK which influence attainment of that goal. The deadlines and scale of preparation of natural resources for exploitation and of the conduct of natural conservation measures and the like are also dependent upon the ultimate objective.

The two-way arrows show that when the given groups of indicators are being worked out, they can be mutually adjusted. For example, the assignment for activation of capacities is dependent on the ultimate objective of the TPK on the one hand, and on the activity of construction organizations on the other. Here the connection with the indicators of construction organizations is more flexible.

The arrows made with dotted lines indicate that in certain cases this connection operates in the reverse direction; these arrows point toward the indicators characterizing the performance of enterprises and organizations not included in the TPK, but closely related to it. Pursuant to the decree of the CPSU Central Committee and USSR Council of Ministers dated 12 July 1979, these enterprises and organizations must give separately in their plans the indicators concerning the TPK's being formed. But in certain cases the external conditions of the TPK may exert a strong adverse influence on formation of its internal proportions. That is why in the stage of preparing the draft of the 5-year plan of the TPK the interrelations of indicators identified are subject to many-sided analysis and all possible situations are taken into account. This analysis is done by working out a set of balances of production and distribution of products, services and resources among the projects of the TPK for each year of the planning period. Moreover, restrictions on the amounts of resources allocated to various ministries and departments, deadlines for activation of capacities at various projects and other conditions pertaining to formation of the TPK in the 5-year period are taken into account.

The search for the balanced version of the draft of the 5-year plan of the TPK is conducted by going over the different alternative versions of the drafts of 5-year plans of enterprises. This task can be performed only using a mathematical-economic model and a computer.

Such a model might be a linear programming model. The main requirement (proportionality in the development and functioning of interrelated production operations) is described quite well by linear relationships (balances of production and distribution of products, services and resources). The constraints are formed so as to take into account the condition of the projects of the TPK at the beginning of the 5-year period and the goals of development at the end of the 5-year period, as well as the amounts of resources to be allocated to various ministries and departments.

At the present time such a model is being developed in the IEIOPP SO AN SSSR<sup>3</sup> (see the consolidated block diagram). It is convenient to bring the main conditions of the model together to form the blocks on the basis of the principle of joint examination of the basic proportions of the TPK and the conditions for their fulfillment. In this case there is no unambiguous correspondence between the blocks of the model and the sections we have identified of the 5-year plan of the TPK. Resulting indicators of the process of squaring the tasks of the TPK and the basic conditions of their performance are represented in the sections of the plan. Their interrelations are described in the blocks of the model. Moreover, additional information which need not be indicated in the 5-year plan of the TPK has to be used. At the same time certain indicators of the 5-year plan are calculated on the basis of the indicators included in the model. For example, once the dynamic pattern for the conduct of construction and installation work has been determined in the model, the extreme deadlines for preparation of project plans and estimates can be established unambiguously, and therefore these indicators are not explicitly reflected in the model.

Alternative versions of the draft of the 5-year plan and individual indicators of the projects of the TPK are indicated vertically in the block diagram presented.

Since it is difficult to assume that the first variant of calculations will yield a balanced draft of the plan of the TPK, the relative size of imbalances is the quantity being sought. On the basis of the possible imbalances discovered and an analysis of the reasons for their occurrence measures are worked out for correcting them, and their effect is checked in subsequent calculations concerning the model.

The basic conditions of the model are shown horizontally in the block diagram. Groups of indicators of the 5-year plan of the TPK whose interrelations these conditions describe are indicated in both diagrams by single digits.

The block of conditions of production relations consists of balances of production and distribution within the complex of the output of enterprises comprising specialization, production operations rounding out the complex, and the services and products of the facilities making up the infrastructure.

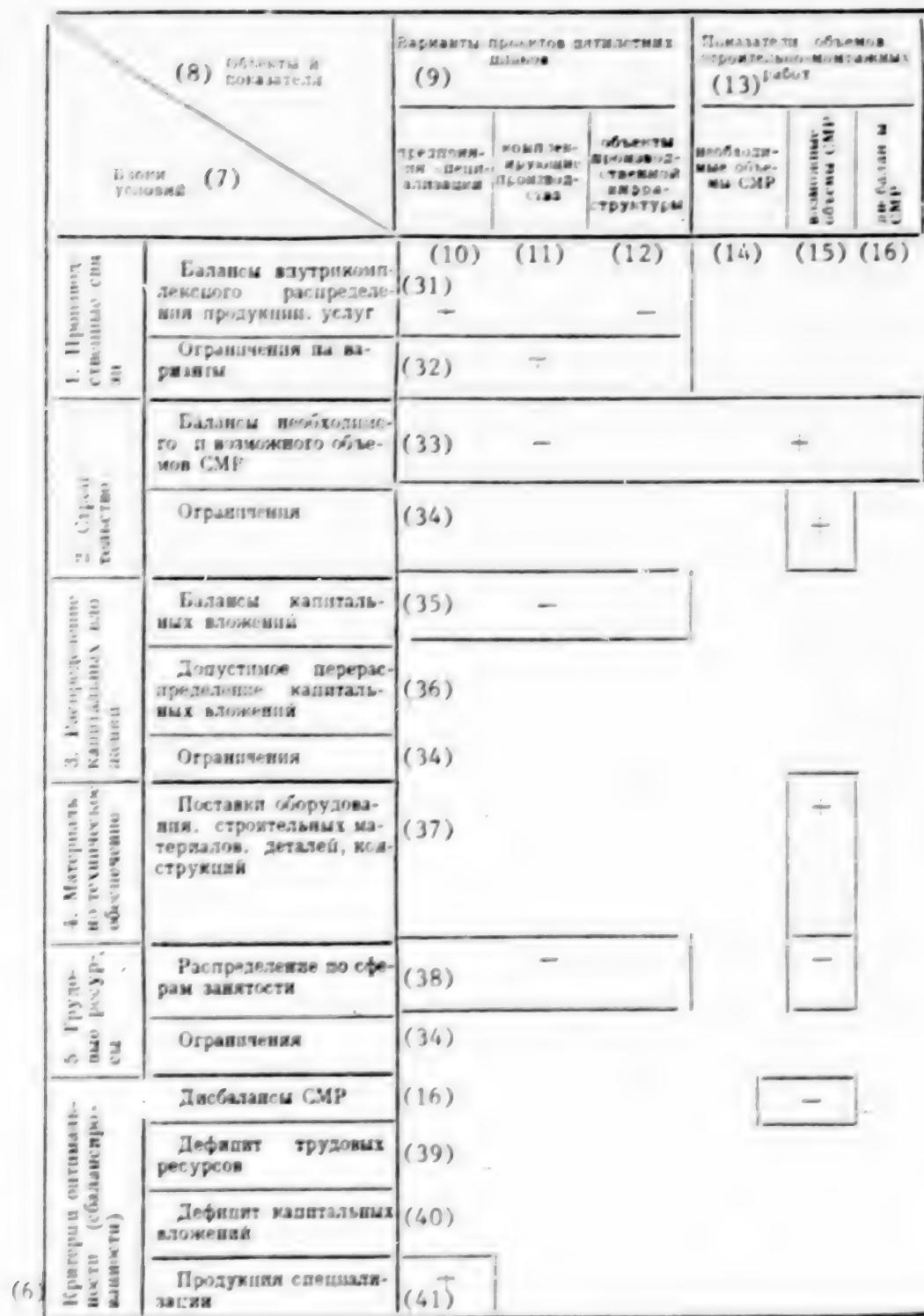
The balances are compiled for each year of the 5-year period. The connection between the years is reflected in the summary indicators of the alternative versions of the drafts of plans of enterprises. The alternative versions are

so shaped that activation or output of products by the enterprises comprising specialization occur within the periods set down in the program for creation and development of the TPK.

**Key to Diagram:**

1. Production connections
2. Construction
3. Distribution of capital investments
4. Material and technical supply
5. Labor resources
6. Optimality criteria (criteria of internal consistency)
7. Blocks of conditions
8. Projects and indicators
9. Alternative versions of the drafts of 5-year plans
10. Enterprises comprising specialization
11. Production operations rounding out the complex
12. Projects of the production infrastructure
13. Indicators of the amounts of construction and installation work (SMR)
14. Necessary amount of SMR
15. Possible amount of SMR
16. Imbalances in SMR
17. Amounts of capital investments by projects
18. Production infrastructure
19. Social infrastructure
20. Shortage, alternative versions for redistribution
21. Deliveries of the most important types of equipment, building materials, structural parts and fabrications
22. Within the complex
23. Outside
24. Indicators of labor resources
25. Total labor force
26. Breakdown
27. Construction workers
28. Permanent operating personnel
29. Shortage
30. Types of restrictions
31. Balances of distribution of products and services within the complex
32. Restrictions which apply to the variant
33. Balances of the amounts of SMR necessary and possible
34. Constraints
35. Balances of capital investments
36. Permissible redistribution of capital investments
37. Deliveries of equipment, building materials, structural parts and fabrications
38. Distribution by spheres of activity
39. Shortage of labor resources
40. Insufficiency of capital investments
41. Output of products comprising specialization
42. Capacity of construction and installation organizations
43. Limit of capital investments
44. Possible deliveries
45. Reserve of labor resources

Consolidated Block Diagram of the Model for Formation of the Principal Indicators of the Draft of the Five-Year Plan of the TPK



Note: The availability of the resource, product or service is indicated by (+), expenditure of the resource, product or service by (-).

### Diagram (continued)

The block of conditions for construction consists of balances of formation of the necessary and possible amounts of construction and installation work and constraints as to the capacity of construction organizations. The balances are checked for each year by types of construction (industrial and public works) and in a breakdown by the places where construction and installation organizations are located.

The necessary amount of construction and installation work is determined as follows: for industrial construction by summing up the indicators of the alternative versions of plans of enterprises; for public works construction--by multiplying the growth of the work force in the cities of the TPK by a series of coefficients (coefficient of family size, standard rates concerning the adequacy of housing and facilities for social, cultural and consumer services for the population, the indicator of the volume of construction and installation work required to meet that standard).<sup>10</sup> The possible volume of construction and installation work depends on the capacity of construction organizations and on their development, on punctual deliveries of equipment, building materials, structural parts and fabrications, and on the sufficiency of construction personnel.

The block of conditions for distribution of capital investments consists of balances of capital investments, conditions of the allowable redistribution of capital investments in time and among projects, ministries and departments. The volume of necessary capital investments is determined in accordance with the dynamic pattern for activation of capacities, standards for the adequacy of housing and facilities providing social, cultural and consumer services for the population and the capabilities of construction organizations. It is compared to the amounts of capital investments allocated and their composition. Conditions for the allowable redistribution of capital investments and the indicators of shortage are present in the balances.

The conditions of material and technical supply are in certain cases examined in the form of constraints.

The block of labor resources includes balances of distribution of labor resources by spheres of employment and constraints as to the reserve of labor resources. It is well known that in future there will be certain difficulties in redistribution of labor resources from region to region and from sector to sector. The conditions of the model make it possible to check whether the other indicators of the 5-year plan are realistic in view of differing sizes of the reserve of labor resources. The indicators of the reserve are calculated for the model.

In this case, where the alternative versions of drafts of 5-year plans of enterprises are balanced, the requirement to correct possible imbalance and disproportions is the criterion for selecting the optimum plan. In case a balanced solution is obtained for this model, it is possible to discover the reserve for development of the TPK. This requires a certain correction of the conditions of the model. The requirement of maximization of the volume of output over the 5-year period by the enterprises comprising specialization can be used as a criterion.

As is evident from the block diagram, the model for drafting the balanced draft of the 5-year plan of the TPK is essentially a multiple-criterion model. The procedure of dialogue between the human operator and the computer has to be organized to make calculations pertaining to this model. In the given problem this dialogue meets the real situations arising in the drafting of the 5-year plan of the TPK, since not all the measures aimed at eliminating imbalances and disproportions in the TPK can be predicted and described in advance. Depending on the type of particular imbalance decisions can be made on augmentation of resources coming from outside, but it is not advisable to include them in the model in advance, without studying the reserves that exist within the complex.

At the present time the model of the draft of the 5-year plan is going through the stage of experimental verification using the materials of the TPK's of Siberia. The preliminary results have been published.<sup>11</sup>

#### FOOTNOTES

1. M. K. Bandman, "Territorial'no-proizvodstvennye kompleksy: teoriya i praktika predplanovykh issledovaniy" [Territorial Production Complexes; Theory and Practice of Preplan Studies], Novosibirsk, Nauka, 1980, 254 pp.
2. Ibid., p 35.
3. It is proposed that the structure of the plan of the TPK be built up according to the functional purpose of the projects. See: "Metodicheskiye rekomendatsii po planirovaniyu territorial'no-proizvodstvennykh kompleksov (osnovnyye polozheniya). Proyekt" [Recommendations on Methods of Planning Territorial Production Complexes (Basic Principles). Draft] Moscow, Central Scientific Research Economics Institute of RSFSR Gosplan, preprint, 1979, 44 pp. Such a structure is more suitable for multiannual documents concerning the TPK, for example, for the program for creation and development of the TPK. It is important to indicate in the 5-year plan the interrelationship between the ultimate objective of creating the TPK and the conditions for its attainment.
4. The comprehensive linkage differs from the usual process of mutual adjustment of plans of capital construction which occurs between clients and contractors in that a simultaneous check is made for internal consistency as to correspondence between the makeup of construction and installation work and the specific purpose of the projects of the TPK.
5. The need to draft summary 5-year and annual financial plans has been set forth in detail in an article by G. B. Polyak and B. N. Anenkov--see the same issue of the journal.
6. "Standard Methodological Instructions for Compiling Plans of the Economic and Social Development of Autonomous Republics, Krays, Oblasts, Okrugs, Rayons and Cities," PLANOVYE KHOZYAYSTVO, No 9, 1982, pp 119-123.

7. "Metodicheskiye ukazaniya k razrabotke gosudarstvennykh planov ekonomicheskogo i sotsial'nogo razvitiya SSSR" [Instructions on Methods of Drafting State Plans of Economic and Social Development of the USSR], Moscow, Ekonomika, 1980, 776 pp.
8. Some of these indicators have been given in the forms for compiling drafts of the state plan of economic and social development of the USSR over the period 1981-1985 and the basic directions for the period up to the year 1990, but were not included in Appendix 12 to the approved plan.
9. N. I. Larina, "A Model of the Principal Indicators of the Draft of the 5-Year Plan of a TPK," EKONOMIKA I MATEMATICHESKIYE METODY, Vol 18, No 6, 1982, pp 1056-1065.
10. The dynamic pattern of activation of housing and facilities for social, cultural and consumer services is then calculated by means of these indicators.
11. N. I. Larina and V. V. Petukhov, "Experimental Calculations Related to a Model of the Draft of the 5-Year Plan of a TPK," in the book: "Nauchno-proyektnaya podgotovka razvitiya TPK" [Scientific and Project Planning Preparation of Development of a TPK], Novosibirsk, IEIOPP SO AN SSSR, 1982.

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